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## A long cane competition's impact on self-determination of youth with visual impairments

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A long cane competition's impact on self-determination  
of youth with visual impairments

By

Kasey Marie Markoski

A Dissertation  
Submitted to the Faculty of  
Mississippi State University  
in Partial Fulfillment of the Requirements  
for the Degree of Doctor of Philosophy  
in Special Education  
in the Department of Curriculum, Instruction, and Special Education

Mississippi State, Mississippi

December 2019

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2019

A long cane competition's impact on self-determination  
of youth with visual impairments

By

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The purpose of this qualitative study was to explore self-determination in daily life and external programs for youth with visual impairments. To achieve this, the researcher explored three areas that contribute to the development of self-determination based on Wehmeyer's Functional Theory of Self-determination: capacity, opportunities, and support. All participants in this study participated in Cane Quest, an external program specifically designed for youth with visual impairments. Cane Quest is a long cane competition for youth with visual impairments. These youth independently complete on a route using their orientation and mobility skills while navigating through complex environments such as residential areas, commercial areas, stores, buses, and a college campus. Data were collected through individual interviews, focus group sessions, and document collection. The phenomenological approach was used to analyze the data. Results suggest that youth with visual impairments are facing barriers to capacity, opportunities, and appropriate support in their daily lives. The finding also identified that external programs, like Cane Quest, can provide opportunities and appropriate support for youth with visual impairments to practice and develop self-determination skills. External programs,

such as Cane Quest, can be beneficial for youth with visual impairments by filling in some of the gaps that may be occurring in their daily lives.

## DEDICATION

I am dedicating this to my husband, Michael. He loved and supported me through my crazy ideas, passion for learning, and drive for success all while making sure our family and I were well cared for. Without him, I would never be able to do all the amazing things I get to do. He is my rock, my home, and my soul.

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I also want to personally thank each one of my committee members for being with me on this journey and taking the time to read and edit my dissertation. I wish to thank Dr. Kenneth Coffey for your advise and edits! I could always count on you to make me think of the big



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## TABLE OF CONTENTS

DEDICATION .....	ii
ACKNOWLEDGEMENTS .....	iii
LIST OF TABLES .....	viii
LIST OF FIGURES .....	ix
CHAPTER	
I. INTRODUCTION .....	1
Statement of the Problem .....	1
Purpose Statement .....	3
Research Questions .....	3
Significance of Topic .....	4
Definitions .....	4
II. LITERATURE REVIEW .....	6
Prevalence of Visual Impairments.....	6
Education of Youth with Visual Impairments.....	7
Prevalence of Youth with Visual Impairments .....	7
Federal Legislation in Special Education .....	8
Expanded Core Curriculum.....	9
Historical Perspective .....	9
Expanded Core Curriculum in Education.....	10
Research in Expanded Core Curriculum .....	13
Orientation and Mobility .....	17
Historical Perspective .....	18
Research in Orientation and Mobility .....	19
Self-Determination .....	21
Theoretical Frameworks .....	23
History of Self-determination.....	23
Theoretical Models .....	24
Self-determined Learning Theory. ....	24
Functional Theory of Self-determination. ....	25
Self-Determination in Blindness and Low Vision.....	26
Qualitative Self-determination Research in Youth with Visual Impairments.....	31

Summation of the Literature .....	34
III. METHODOLOGY .....	36
Research Method .....	36
Research Design .....	37
Sampling Procedures .....	38
Cane Quest.....	38
Sampling Recruitment .....	39
Inclusion Criteria .....	40
Participant Demographics .....	41
Instruments .....	44
Data Collection Procedures .....	45
Data Analysis Procedures .....	49
Trustworthiness .....	57
Internal Threats.....	59
Limitations.....	60
IV. FINDINGS .....	62
Description of Youth Participants .....	64
Simon .....	64
Mark .....	64
Kimberly.....	65
Hannah.....	66
Chloe .....	67
Kate .....	67
Description of Orientation and Mobility Specialists .....	68
Haley .....	68
Joy .....	68
Andrea .....	68
Alison .....	69
Monica.....	69
Brian .....	69
Shirley .....	70
Stewart.....	70
Grace .....	70
Amber .....	71
Category 1: Capacity in Life .....	71
Theme One: The Role of the Orientation and Mobility Specialist.....	71
Theme Two: Knowledge Attainment .....	73
Theme Three: Barriers to Capacity .....	76
Category 2: Opportunities in Life.....	79
Theme One: Opportunities in Autonomy .....	79
Theme Two: Opportunities in Self-regulation .....	82
Theme Three: Opportunities in Psychological Empowerment .....	85

Theme Four: Opportunities in Self-realization.....	88
Theme Five: Opportunities in External Programs.....	90
Theme Six: Barriers to Opportunities.....	92
Category 3: Support in Life.....	94
Theme One: Aides and Paraeducator Support.....	95
Theme Two: Beneficial Support .....	96
Theme Three: Learned Helplessness.....	98
Category 4: Cane Quest.....	100
Describing Cane Quest .....	100
Cane Quest Feelings .....	101
Theme One: Cane Quest Opportunities in Autonomy .....	103
Theme Two: Cane Quest Opportunities in Self-regulation.....	105
Theme Three: Cane Quest Opportunities in Psychological Empowerment .....	108
Theme Four: Cane Quest Opportunities in Self-realization .....	111
Theme Five: Support at Cane Quest.....	113
 V. DISCUSSION AND CONCLUSIONS .....	117
Summary.....	117
Discussion.....	118
Conclusions .....	124
Suggestions for Future Research .....	126
Implications .....	127
 REFERENCES .....	130
 APPENDIX	
A. YOUTH INTERVIEW PROTOCOL .....	142
B. ORIENTATION AND MOBILITY INTERVIEW PROTOCOL.....	145
C. YOUTH FOCUS GROUP PROTOCOL .....	149
D. ORIENTATION AND MOBILITY FOCUS GROUP PROTOCOL.....	152
E. SKILLS CHECKLIST FOR CANE QUEST .....	155
F. CANE QUEST ROUTE MAPS.....	158
G. SELF-DETERMINATION INTERCODER RELIABILITY RUBRIC.....	161
H. INSTITUTIONAL REVIEW BOARD NOTICE OF APPROVAL.....	166

## LIST OF TABLES

1	The Expanded Core Curriculum .....	11
2	Existing Literature on Research in Self-determination.....	27
3	Description of Youth Participants.....	42
4	Description of Orientation and Mobility Specialists .....	43
5	Youth Interview Durations .....	46
6	Orientation and Mobility Specialist Interview Durations.....	47
7	Initial Coding .....	52
8	Additional Emergent Coding .....	53
9	Final Code Frequency .....	54
10	Categories and Thematic Codes.....	56
G1	Self-determination Coding Rubric .....	162

## LIST OF FIGURES

1.	Self-determination graphic model.....	63
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## CHAPTER I

### INTRODUCTION

#### **Statement of the Problem**

In the year 2017, 29% of young adults with a vision disability ages 16 to 20 were employed (Erickson, Lee, & von Schrader, 2017). This same year 39% of young adults without a disability ages 16 to 20 were employed (Erickson et al., 2017). This difference in employment numbers increases in the older age groups. In ages 21 to 64, 44% of adults with visual impairments were employed in 2017 (Erickson et al., 2017). That same year 79% of adults without a disability ages 21 to 64 were employed (Erickson et al., 2017). This significant gap demonstrates the need for exploration into areas that increase these numbers. One potential way to increase the employment success of youth with visual impairments after high school is the implementation of the Expanded Core Curriculum.

The Expanded Core Curriculum was created to address the unique educational needs of children with vision loss (Hatlen, 2003). Orientation and mobility is one of the nine domains of the Expanded Core Curriculum. Orientation and mobility skills and training are necessary for people with visual impairments to travel independently. Research supports the many benefits of having orientation and mobility skills, and it has been associated with employment for youth and young adults (Cmar, 2015; McDonnall, 2011). The ability to travel independently allows students to practice and develop many of the valuable skills of self-determination. The Expanded Core Curriculum includes self-determination skills as a factor for success in school, the

community, and employment (Sapp & Hatlen, 2010). Although the current research of self-determination has demonstrated that these skills are beneficial, there is a disconnect between research recommendations and service providers' educational plans (Agran, Hong, & Blankenship, 2007). There has also been minimal research on self-determination opportunities and instruction for students with visual impairments. Research in these areas may lead to insights on ways to provide opportunities for youth to develop self-determination skills.

To identify ways youth with visual impairments increase self-determination, the researcher will use the phenomenological approach to explore the perceptions and experiences of participants who attended Cane Quest, a long cane competition. The Braille Institute Inc. (2018) conducts a long cane competition every year for youth with visual impairments. The Cane Quest competition allows students to practice their orientation and mobility skills on their own while traveling an unfamiliar route (Braille Institute of America Inc., 2018). Since the long cane competition focuses on practicing and using many of the domains of self-determination, the researcher aims to explore the perceptions of self-determination the youth participants experienced during and after this event. To enrich the descriptions provided, the inclusion of the orientation and mobility instructor perspectives who observed and rated participants at this event will also offer additional insights for accurate interpretation of the data. The study will also explore how youth with visual impairments experience opportunities in self-determination in their daily lives. These findings provide valuable insight into the experiences of youth with visual impairments at a long cane competition, identify self-determination themes associated with independent travel programs such as Cane Quest, and increase knowledge of self-determination opportunities.



### **Purpose Statement**

The purpose of this qualitative study was to explore self-determination in youth with visual impairments. To achieve this, the study investigated youth with visual impairments ability to gain capacity in self-determination in daily life and at a long cane competition. This study also identified ways in which youth with visual impairments gained opportunities and experiences in self-determination in their daily life and at a long cane competition. The final area of self-determination that was explored are the types of support youth with visual impairments received in their daily life and at a long cane competition. This study builds on prior research using the phenomenological exploration of the perceptions and experiences of the youth with visual impairments who previously attended a long cane competition in California.

### **Research Questions**

The research questions are designed to explore how youth with visual impairments are gaining opportunities and experiences in self-determination in both their daily lives and through external programs such as a long cane competition. The following research questions were developed to explore the three areas of self-determination: capacity, opportunities, and support.

1. Do youth with visual impairments gain capacity in their daily lives
2. Do youth with visual impairments gain capacity at a long cane competition?
3. How are youth with visual impairments gaining opportunities and experiences in self-determination in their daily lives?
4. How are youth with visual impairments gaining opportunities and experiences in self-determination at a long cane competition?
5. What type of support are youth with visual impairments receiving in their daily lives?

6. What type of support are youth with visual impairments receiving at a long cane competition?

### **Significance of Topic**

Youth with disabilities have fewer opportunities to develop self-determination than students without disabilities (Mithaug, Mithaug, Agran, Martin, & Wehmeyer, 2003). For youth to be more self-determined, they must be allowed to increase their capacity through opportunities in independence (Wehmeyer, 2003a). Qualitative research on opportunities to practice independence skills, such as participation in a long cane competition, may also yield opportunities to practice self-determination skills.

### **Definitions**

The following terms are used throughout the remaining chapters. These definitions are discipline-specific and are provided to assist the reader in establishing a common terminology.

Cane Quest- A one-day long cane competition for youth with visual impairments. There are three levels of competitors based on grade in school: Scouts (3-6), Explorers (7-9), and Trailblazers (10-12). Participants are given an unknown route to complete entirely on their own using only auditory instructions provided through an electronic device. Participants are evaluated on their proper travel and appropriate long cane techniques by trained orientation and mobility specialists. At the end of the competition, those with the highest scores receive prizes.

Expanded Core Curriculum- “Concepts and skills beyond the general education core curriculum that often require specialized instruction for students who are blind or visually impaired

to compensate for decreased opportunities to learn incidentally by observing others.”  
(Griffin-Shirley & Pogrud, 2018, p. 3)

**Long Cane-** A long cane is used by a person with a visual impairment to preview the environment up ahead for objects, surface changes, or hazards (Blasch, LaGrow, & De l’Aune, 1996). The cane is typically made from aluminum, fiberglass, or graphite.

**Orientation and Mobility-** The teaching of individuals with visual impairments the skills, concepts, and techniques necessary for safe, effective, and efficient travel in all environments and conditions (Hill & Ponder, 1976; Jacobson, 2013). Orientation and mobility specialists teach these skills to people with a visual impairment of all ages.

**Self-determination-** “Combination of skills, knowledge, and beliefs that enable a person to be engaged in goal-directed, self-regulated, autonomous behavior” (Field, Martin, Miller, Ward, & Wehmeyer, 1998, p. 10).

**Teachers of Students with Visual Impairments-** “A special educator trained and certified to provide direct instruction, accommodations, and modifications to youth with visual impairments” (Spungin & Ferrell, 2007, p. 1). These teachers work with students with visual impairments in school districts.

**Visually Impaired:** Under the Individuals with Disabilities Education Improvement Act a visual impairment is defined as “an impairment of vision that, even with correction, adversely affects a child’s educational performance” (34 C.F.R. Sec. 300.8(c)(13)). The legal definition of blindness in the United States is a visual acuity of 20/200 or less in the better eye with the best correction or a visual field of 20 degrees or less (Social Security Administration, 2018). A person with “normal vision” can see an object from 200 feet, whereas a person with 20/200 would have to be 20 feet away to see the same object.

## CHAPTER II

### LITERATURE REVIEW

#### **Prevalence of Visual Impairments**

There are two different classifications that organizations use to divide visual impairments when reporting information. The World Health Organization (2017) groups visual impairments into four main categories: Mild or no visual impairment (20/70), moderate visual impairment (20/200), severe visual impairment (20/400), and blindness (20/1200). They estimate that 36 million people are blind worldwide, with over half (56%) of this population being female (Bourne et al., 2017). This number is projected to increase to 38.5 million by 2020 and 114.6 million by 2050 (Bourne et al., 2017). Approximately 217 million people worldwide have a moderate to severe vision impairment, meaning a visual acuity of 20/200 or worse (World Health Organization, 2017). Of this categorization, females made up slightly over half (55%) (Bourne et al., 2017). The population of those with moderate or severe visual impairment is expected to increase to 237.1 million by 2020 and 587.6 million by 2050. The United States legal definition for blindness given by the Social Security Administration is "central visual acuity 20/200 or less in the better eye with the best correction or widest diameter of visual field subtending an angle of no greater than 20 degrees" (Social Security Administration, 2018). The 2016 United States Census Bureau reported that there are approximately 7.6 million people who reported having blindness or a severe difficulty seeing even when wearing glasses (U.S. Census Bureau, 2018).

These varying definitions demonstrate how different organizations measure and identify the population of visual impairments worldwide and in the United States.

## **Education of Youth with Visual Impairments**

### **Prevalence of Youth with Visual Impairments**

Worldwide there are approximately 19 million children who are blind (Bourne et al., 2017; World Health Organization, 2017). The United States Census Bureau reported that in 2016, there were 706,400 youth ages 0 to 20 who had a visual disability (Erickson et al., 2017). American Printing House for the Blind (APH, 2018) reports there are 63,501 visually impaired students in the United States identified through the school districts as having received adapted materials in elementary through high school in 2017. These students are identified through the Federal Quota Program, which defines visual impairment through the following criteria: a) central visual acuity of 20/200 or less in the better eye with correcting glasses, b) a peripheral field of fewer than 20 degrees, c) visual performance reduced by brain injury or dysfunction, or d) determined by an eye care specialist or neurologist (APH, 2018). However, in 2017-2018, approximately 27,000 students with visual impairments ages 3 to 21 years of age were served under the Individuals with Disabilities Education Act Part B (National Center for Educational Statistics, 2019). Children in the United States qualify as visually impaired under Individuals with Disabilities Education Act under the following definition: a visual impairment including blindness even with the best correction, adversely affects a child's education (34 C.F.R. § 300.7 [a] [1]-[b][13]). The loosely defined category of visual impairment and how the disability is reported could be a contributing factor to a significant discrepancy in the number of students identified through the Individuals with Disabilities Education Act. The numbers are crucial to

understanding the population of students with visual impairments served in schools in the United States.

### **Federal Legislation in Special Education**

The first schools for the blind in the United States were established in Massachusetts, New York, and Pennsylvania in the early 1830s (Lowenfeld, 1971). The initial push toward general education for students with visual impairments began in 1879 when Congress created legislation under Chapter 186 (Hatlen, 2003). This legislation established the American Printing House for the Blind to provide textbooks in accessible formats to students with visual impairments through federal funds (Hatlen, 2003). In 1965, Congress passed the Elementary and Secondary Education Act, creating support for children with visual impairments in state-operated and residential schools (P.L. 89-313). The Education for All Handicapped Children Act of 1974 followed this legislation, which established that all children with disabilities are entitled to free and appropriate education (P.L. 94-142). Before the Education for All Handicapped Children Act passed, children with vision loss were educated in specialized institutions (Lowenfeld, 1971). Some of the significant provisions of the law included: comprehensive and appropriate assessments, Individualized Education Plans for every student with a disability, the process for obtaining special education services, and increases in parents' rights (Hatlen, 2003). Amendments to the Education for all Handicapped Children Act in 1986 created federal funds for early intervention services for children and toddlers with disabilities (P.L. 99-457). The reauthorization of the Education for All Handicapped Children Act became the Individuals with Disabilities Education Act of 1990 (IDEA). In 1997, the Individuals with Disabilities Education Act was reauthorized to include the addition of related services for students with visual impairments (IDEA, 1997). These new related services included orientation and mobility (Bina,

Naimy, Fazzi, & Crouse, 2010; Hatlen, 2003). The Individuals with Disabilities Education Act was later reauthorized in 2004 as the Individuals with Disabilities Education Improvement Act of 2004. This reauthorization included language requiring that assessments and education of children with disabilities cover all areas related to their disability. For students with visual impairments, this would consist of knowledge in additional content areas known as the Expanded Core Curriculum.

## **Expanded Core Curriculum**

### **Historical Perspective**

With the passing of the Individuals with Disabilities Education Act, children with vision loss were placed in the least restrictive environment; for most students, this is the general education classroom (Curry & Hatlen, 1988). In 1986, approximately 72% of students with visual impairments attended public school (Curry & Hatlen, 1988), this number increased to more than 90% of students served by state departments and schools for the blind in 2017 (APH, 2018). The remaining students are identified as being educated in rehabilitation programs or multiple disabilities programs (APH, 2018). Schools are required to provide a teacher of students with visual impairments to ensure that students with visual impairments are receiving a free appropriate public education (FAPE) under the Individuals with Disabilities Education Act (Turnbull, Huerta, & Stowe, 2009). These specialized educators are “trained and certified to provide direct instruction, accommodations, and modifications that provide access to the general curriculum for children who are blind or visually impaired” (Spungin & Ferrell, 2007, p. 1). Several concerns began to arise with the increase of students with visual impairments served by the state departments and schools for the blind. The first problem occurred when these students were integrated into general education classrooms. Educators believed that students only needed

the core curriculum designed initially for sighted students (Hatlen, 1996). This curriculum designed for sighted students created many problems in the ability of students with vision loss to have access to the same material (Allman & Lewis, 2014).

The second significant problem was the lack of specialized educators who knew how to adapt the learning materials and environment to meet the needs of students with vision loss (Allman & Lewis, 2014). This increasing problem is that teachers of students with visual impairments are typically hired as itinerant professionals which requires a teacher to travel to each school through a large area to provide instruction to students (Allman & Lewis, 2014, Brown & Glaser, 2014). Another significant problem occurs when students with vision loss are overlooked for services with a teacher of students with visual impairments because they have another disability that is considered their primary disability (Allman & Lewis, 2014).

### **Expanded Core Curriculum in Education**

Students with visual impairments not only have the right to an equal education; they also have a “right to be different.” The “right to be different” includes needing specialized skills in addition to the general education curriculum that students without disabilities receive (Hatlen, 1996). Students with vision loss require additional knowledge and skills to be successful in all areas of life; this is known as the Expanded Core Curriculum (Hatlen, 1996). The Expanded Core Curriculum was created by a group of professionals, consumer organizations, parents, and consumers through an organization known as *The National Agenda for the Education of Children and Youth with Visual Impairments, Including Those with Multiple Disabilities*. This group included the Expanded Core Curriculum in the eight goals established for improving services for students with visual impairments (Corn, Hatlen, Huebner, Ryan, & Siller, 1995; Huebner, Merk-Adams, Stryker, & Wolffe, 2004). “Experiences and concepts casually and



incidentally learned by sighted students must be systematically and sequentially taught to the visually impaired student” (Hatlen, 1996 p. 27). In 1996, Hatlen determined the following original eight Expanded Core Curriculum skills for students with visual impairments: compensatory skills, orientation and mobility, social interaction skills, independent living skills, recreation and leisure skills, career education, assistive technology, and visual efficiency skills. The Expanded Core Curriculum was updated in 2003 to include a ninth additional skill, self-determination, as well as changing visual efficiency skills to sensory efficiency skills (Hatlen, 2003). Table 1 explains each of the nine areas of the Expanded Core Curriculum:

Table 1

*The Expanded Core Curriculum*

Expanded Core Curriculum Skill	Description
Compensatory Skills	The skills youth with visual impairments need to access information about the world through communication and literacy. This area includes concept development, spatial understanding, communication modes, speaking and listening skills, study and organization skills, and use of adaptive and specialized educational materials.
Sensory Efficiency	Skills for the processing of information through stimuli. Sensory efficiency includes skills such as visual function, auditory function, tactile function, gustatory (taste) function, and olfactory (smell) function.
Assistive Technology	Knowledge and skills for a variety of devices and equipment youth with visual impairments need to access the core curriculum. Skills in this area include access to information, communication, and personal productivity.

Table 1 (continued)

Orientation and Mobility	The need to navigate one's environment safely and effectively. These skills include body concepts, environmental concepts, spatial concepts, perceptual/sensory skills, mobility skills, orientation skills, interpersonal skills, and decision making skills.
Independent Living	Behaviors and skills to manage everyday life independently. Knowledge in this area includes organization, personal hygiene/grooming, dressing, clothing care, time management, eating, cooking, cleaning/general household tasks, telephone use, and money management.
Social Interaction	Knowledge of behaviors that are needed to participate in social interactions appropriately. Skills in this area include appropriate body language, social communication, effective conversation patterns, cooperative skills, interactions with others, social etiquette, development of relationships and friendships, knowledge of self, and interpretation and monitoring of social behavior.
Recreation and Leisure	Skills focusing on physical and leisure activities include play, physical activity, health, fitness, and individual sports, team and spectator sports, and leisure activities and hobbies.
Career Education	The education of and knowledge to prepare youth for a future career. Instruction in this area includes career awareness, career exploration, career preparation, and career placement.
Self-determination	Experiences and skills development to act on one's own needs and desires to increase independence. Skills development in this area includes the following: self-knowledge, awareness of individual rights and responsibilities, capacity to make informed choices, problem-solving and goal setting skills, ability to engage in self-regulated and self-directed behavior, self-advocacy and empowerment, and assertiveness skills.

*Note.* Adapted from *ECC Essentials: Teaching the Expanded Core Curriculum to Students with Visual Impairments* by C. B. Allman and S. Lewis (Eds.), 2014, New York, NY: AFB Press. Copyright 2014 by AFB Press.

Since the inception of the Expanded Core Curriculum, many researchers sought to investigate its implementation. While there is no comprehensive research on the benefits of the Expanded Core Curriculum, there are studies on Expanded Core Curriculum knowledge, implementation, and specific content areas.

### **Research in Expanded Core Curriculum**

In a thorough review of the literature, three studies were identified that investigated the Expanded Core Curriculum in youth with visual impairments. These studies focused on the knowledge, implementation, and benefits of the Expanded Core Curriculum with the youth population.

The first study by Lohmeier, Blankenship, and Hatlen (2009) sought to identify parents' and teachers' understanding of the Expanded Core Curriculum 12 years after its introduction to the field. Surveys were distributed across the United States at national conferences, newsletters, and were available online. The researchers received 90 completed surveys back; 40 from parents and 50 from professionals. In the professional category, 70% identified as a teacher of students with visual impairments, 22% were dual certified as both teacher of students with visual impairments and orientation and mobility, and the remaining 8% identified as *other*. When asked about *The National Agenda for the Education of Children and Youth with Visual Impairments, Including Those with Multiple Disabilities* before the survey; 40% of parents and 60% of professionals reported they knew about it. When parents were asked of their child's teacher of students with visual impairments' or orientation and mobility specialists' content knowledge of the Expanded Core Curriculum; 25% of parents stated that some content was known and 23% stated that all content was known. When asked to identify if teachers of students with visual impairments or orientation and mobility specialists taught the skills in the Expanded Core

Curriculum, 50% of the parents stated that they did whereas 32% stated they did not know. This finding contrasts with professionals who believe that approximately 68% of professionals know most or some of the Expanded Core Curriculum content. Time restraints to teach Expanded Core Curriculum skills were found to be a common theme reported by both parents and professionals. Technology, social skills, and orientation and mobility were rated as the specific content areas being taught the most. Professionals rated recreation/leisure skills and self-determination as least likely to be taught in school. When asked for suggestions on when to teach Expanded Core Curriculum skills, the majority of professionals provided no answer (35%), 22% suggested skills should be included in summer programs, and 9% suggested instruction after school. Based on these findings, professionals were least likely to teach self-determination in school and recommend these skills be taught through other programs outside of school. This theme was also found in research by Lohmeier (2005).

To identify how the Expanded Core Curriculum is implemented in specialized schools for youth with visual impairments, Lohmeier (2005) investigated when the Expanded Core Curriculum instruction was implemented: before, during, or after school hours. At the time of the study, the investigator was only able to include the first eight skill areas of the Expanded Core Curriculum as the ninth skill area had not been adopted at that time. The researcher reached out to 30 superintendents and principals of specialized schools for students with visual impairments, of which, 16 responded to the questionnaire. The researcher found that recreation and leisure, orientation and mobility, and career education were the most frequently taught areas; whereas, social interaction development and visual efficiency were the least. In all areas of the Expanded Core Curriculum assessed, a majority of the instruction (71%), was taught during the school day.

In contrast, social interaction development, independent living skills, and recreation and leisure were found to occur outside of school hours. When asked to identify what source of curricula was used to implement the Expanded Core Curriculum: 29% used the Texas School for the Blind curriculum, 21% used an in-house developed curriculum, 14% used none, 11% used a curriculum from the American Printing House, and 25% used *other*. These findings demonstrated the need for specialized schools to go beyond regular school hours to ensure that all areas of the Expanded Core Curriculum were met. The researcher also stated that many areas of the Expanded Core Curriculum were best taught when the skills are applied in a natural setting such as social interactions, recreation and leisure, and home life. These findings demonstrate the increasing need for external sources of Expanded Core Curriculum skill development.

The benefits of the Expanded Core Curriculum for youth with visual impairments were investigated by Wolffe and Kelly (2011). The investigators used the National Longitudinal Transition Study 2 (NLTS2) to analyze data on students ranging from seventh through twelfth grade who received special education services. This data set comprised of 3,634 local education agencies and 77 state-supported specialized schools across the United States. The study included four waves of data collected from 2000 to 2007. Data collection included a parent or guardian, student, and teacher interviews as well as school programs, school characteristics, student assessment histories, student transcripts, grades, and attendance records. The student participants were between the ages of 13 and 16 in the 2000 to 2001 school year. To determine differences based on vision, the participants were separated into two groups: low vision and blind. The researchers analyzed each area of the Expanded Core Curriculum to determine significant relationships using Yate's correction and an alpha level of .05 (Wolffe & Kelly, 2011).

In the area of compensatory skills, Wolffe and Kelly (2011) found a significant relationship for students who were blind receiving braille services and orientation and mobility services with having paid employment. For youth with low vision, there were significant relationships between using braille with the following variables: receiving orientation and mobility services, receiving assistive technology services, using a portable braille notetaker, using assistive technology, and receiving career counseling services. In this study, the career counseling variable (having help finding a job, job skills training, or vocational education) was significant for both students who were blind or low vision with having a paid job in Wave 3 but not found to be significant in Wave 4. Waves 1 and 2 were not used with this variable because the participants were still in high school. Significance was also found in all four Waves for both participants with blindness and low vision with having participated in volunteer or community services and having received career counseling services. The researchers also found that students who were blind who used assistive technology and used computers to access the internet or emails were more likely to attend a postsecondary institute after high school or have a paid job. In the area of social skills, the following were found to have a significant relationship in both students who were blind or had low vision: being invited to social activities with friends and knowing how to use a computer, the internet, email, and chat rooms (Wolffe & Kelly, 2011).

These relationships demonstrate significance between some of the Expanded Core Curriculum areas and post-school outcomes such as attending a post-secondary institution, having a paid job, volunteering, and community service. More research is needed to explore relationships between the Expanded Core Curriculum and positive outcomes for youth with visual impairments.

These studies provided details to some of the problems of increasing Expanded Core Curriculum skills in youth with visual impairments. They also identified the benefits of these skills for youth with visual impairments. This study aims to explore opportunities in two areas of the Expanded Core Curriculum, orientation and mobility and self-determination, these youth gain in school, as well as add to pre-existing research in identifying other areas that may increase Expanded Core Curriculum skills for youth with visual impairments.

### **Orientation and Mobility**

Orientation is defined as “knowledge of one’s distance and direction relative to things observed or remembered in the surroundings and keeping track of these spatial relationships as they change during locomotion” (Wiener, Welsh, & Blasch, 2010, p. 750). Moving through an environment, a person must engage in mobility; “the act of moving safely and effectively from one’s present position to a desired position in another part of the environment” (Guth, Rieser, & Ashmead, 2010, p. 5). Orientation and mobility training is the combination of these components to systematically teach these techniques and skills to people who have blindness or low vision (Wiener et al., 2010). Orientation and mobility training may include a long cane, guide dog, or a human guide. The long cane is used to probe the area in front of the person walking to detect obstacles, identify terrain, and safely walk from one place to another (Lowenfeld, 1971). Orientation and mobility training is an essential component of education for children with vision loss because it expands opportunities to explore independently and become as independent as possible (Lowenfeld, 1971).

## **Historical Perspective**

In 1929, the arrival of the first guide dog in New York from Switzerland became the first significant step in independent travel for persons with vision loss in the United States (Carroll, 1961). The second significant step in independent travel occurred following World War II. The United States Office of Vocational Rehabilitation recognized a great need for mobility rehabilitation for blinded servicemen (Welsh, 2005a, 2005b; Wiener & Sifferman, 2010; Carroll, 1961). Richard E. Hoover was the first to create a long cane and training technique known as the Hoover cane (Carroll, 1961). To increase the number of mobility instructors and establish the profession, Boston College began the first university established orientation and mobility program in 1960 (Wiener & Sifferman, 2010; Carroll, 1961).

In the past, for youth in the public-school system to receive orientation and mobility training at school, parents would need to request mobility services from a mobility instructor or a local agency that provided services for adults with vision loss (Lowenfeld, 1971). In the 1997 revision of the Individuals with Disabilities Education Act, orientation and mobility was added as a related service for students with visual impairments (Bina et al., 2010; Hatlen, 2003). Students would now be allowed to receive orientation and mobility services to obtain maximum benefit from their education in school through the school district (Bina et al., 2010). The role of the orientation and mobility specialist is to teach students with blindness or low vision to travel in familiar or unfamiliar environments safely, efficiently, and independently (Wall Emerson & Corn, 2006).

Orientation and mobility training is an essential skill for youth with visual impairments to learn. In a 10 year follow up of former students who attended the Wisconsin School for the Visually Handicapped, participants stated that orientation and mobility was one of the most



valuable skills to learn while in school (Heiden, 1989). Orientation and mobility are skills that would benefit people with vision loss in future employment. Early research found that people who obtained successful employment rated orientation and mobility as one of the top skills needed (DeMario, 1992; DeMario, Rex, & Morreau, 1990; Knowles, 1969; Lombana, 1980).

### **Research in Orientation and Mobility**

Studies focusing on youth and the benefits of orientation and mobility are limited to two researcher's secondary analysis of the NLTS2. McDonnall (2011) sought to identify predictors of employment for youth with visual impairments. In 2000, the U.S. Department of Education funded the NLTS2 data collected in five separate waves between 2001 and 2009 (McDonnall, 2011). NLTS2 data were collected on approximately 11,270 students receiving state-funded special education services. These waves were a nationally representative sample of students in special education services. The following is a list of each Wave and when the data were collected: Wave 1 2001-2002 school year, Wave 2 2003-2004 school year, Wave 3 in 2005, Wave 4 2007, and Wave 5 2009. Participants ranged in age from 13 to 16 in the 2000 to 2001 school year and around 21 to 25 years old in Wave 5. McDonnall (2011) used data collected in the first four waves of the NLTS2 study. The researcher restricted the sample to youth who identified their primary disability as a visual impairment, had employment data available, completed or were no longer in high school, and were not attending postsecondary school. The final sample size of 250 participants ranged from age 19 to 23 years. The dependent variable was separated into two defined categories based on the number of hours worked: 20 hours or more and 35 hours or more. The researcher investigated the following independent variables: early work experience, number of recent work experiences, receipt of Supplemental Security Income (SSI) benefits, academic competence, transportation difficulties, self-determination, health,

completion of a postsecondary program, parental expectations, level of vision loss, social skills, independent travel skills, and use of assistive technology. Using a multivariate analysis, four variables were found to be significant in both categories of the number of hours worked: early work experiences, number of recent work experiences, difficulty with transportation, and completion of a post-secondary program. Peer social skills were found to be a significant predictor of employment for participants in the 20 hours or more category. Independent travel (the use of orientation and mobility skills) was found to be a significant predictor of employment in the 35 hours or more category.

Cmar's (2015) later investigation specifically looked at orientation and mobility and employment outcomes. The researcher examined whether there was a relationship between travel skills and employment up to six and eight years after high school for young adults with visual impairments. The study by Cmar (2015) included participants whose primary disability was visual impairment, had data collected from at least one school program survey and had a parent/youth survey submitted to the NLTS2 study. This study included data from Wave 1, Wave 2, Wave 4, and Wave 5, not including Wave 3. Independent variables were used from Wave 1 and Wave 2 while the participants were in seventh grade through two years post-graduation. The dependent variables were determined from Wave 4 and Wave 5 when the participants were up to six- and eight-years post-graduation. In Wave 1, the participants (n= 510) ranged in age from 14 to 18 in the 2000-2001 academic year. Of this group, 68% had low vision, and 34% had a secondary disability. In Wave 4 and Wave 5, the participants were asked if they were employed. The investigator found correlations in both community level and level of vision loss as predictors of employment in Wave 4 (up to six years post-high school). Participants who rated higher in community travel skills or had a higher level of vision were more likely to have employment. In

Wave 4, community travel skills were the strongest predictor for employment. This finding was similar to the participant's level of vision; participants with better vision were more likely employed. The following variables were found to be a significant predictor of employment in Wave 5 (up to eight years post-high school): outcome expectations (likelihood of getting a paid job, supporting self-financially, and living independently), level of vision, and campus travel rating.

Although there is limited research on orientation and mobility benefits for youth with visual impairments, there is supporting research in the adult population (Ball & Nicolle, 2015; DeMario, 1992; DeMario et al., 1990; Knowles, 1969; Lombana, 1980). While the two studies by McDonnall (2011) and Cmar (2015) used quantitative analyses, they lack depth in the opportunities and experiences in orientation and mobility. There is a need for qualitative exploration into the perceptions and experiences of youth who use and rely on orientation and mobility skills to be independent.

### **Self-Determination**

After reviewing the literature on one component of the study, orientation and mobility, the primary purpose of this study is the exploration of self-determination. The earliest use of the term self-determination occurred in 1683 (Simpson & Weiner, 1989, p. 919). Deci and Ryan (1985) later defined self-determination as “the capacity to choose and to have those choices, rather than reinforcement contingencies, drives, or any other forces or pressures, to be the determinants of one's action” (p. 38). Several definitions followed with a focus on goal attainment such as the Oxford English Dictionary's definition of self-determination as “determination of one's mind or will by itself toward an object” (Simpson & Weiner, 1989, p. 919). Also, Ward's (1988), self-determination definition “both the attitudes which lead people to

define goals for themselves and to their ability to take the initiative to achieve these goals” (p. 2). Definitions of self-determination are, at times, broad but overall characterize self-determination as a person’s freedom and self-governance over one’s self (Wehmeyer, 2005). Field et al. (1998) define self-determination as the “combination of skills, knowledge, and beliefs that enable a person to be engaged in goal-directed, self-regulated, autonomous behavior” (p. 10). For this study, this definition is useful because it identifies several skills that could be developed for a person to become more self-determined.

To understand self-determination, it is essential to explore what the motivation of human behavior is. Deci and Ryan (1985) state that two aspects govern a person's motivation. The first aspect of motivation is energy; this is the matter of needs of the person that creates the energy for motivation (Deci & Ryan, 1985). Motivation also needs direction, “the processes and structures of the organism that give meaning to internal and external stimuli” (Deci & Ryan, 1985, p. 3) thus creating a motivation to satisfy the needs of the organism in a specific direction. Self-determination is one theory of motivation. Self-determination Theory includes the concepts of volition (the power of choosing), autonomy (self-directing), and choice to influence behavior (Deci & Ryan, 1985). Self-determination cannot be observed directly but indicated through observable representative behaviors (Wehmeyer, 2007). Researchers use self-determination as an explanation and prediction of human behavior that cannot be physically measured (Wehmeyer, 2005). Self-determination impacts both people with and without disabilities throughout their life and across life domains (Ankeny & Lehmann, 2011; Deci & Ryan, 1985; Wehmeyer, 2007).

## **Theoretical Frameworks**

### **History of Self-determination**

The history of the present-day theory of self-determination began in the late 1600s when English philosopher John Locke proposed that God does not control behaviors, but instead, behaviors were the act of free will and volition (the power of choosing; Wehmeyer, 2004). He created the term determinism to explain that events were the effects of human behavior and actions (Wehmeyer, 2004). By the 1930s, researchers in the field of psychology began to explore self-determination as internal and external causal agents of behavior (Wehmeyer, 1999; 2004). This led to the association of self-advocacy with people who had a disability (Wehmeyer, 2004), a commonly associated component of self-determination (Field et al., 1998). In the 1980s, the focus on the research of self-determination shifted to understanding the motivation of autonomous behaviors (Deci & Ryan, 1985). As legislation increased to support people with disabilities to have the right to participate more fully in society, this also increased the need for students to develop the skills to take full advantage of these rights (Field et al., 1998). The 1992 amendment of the Rehabilitation Act stated that students with disabilities should “enjoy self-determination, make choices, contribute to society, pursue meaningful careers, and enjoy full inclusion and integration in the economic, political, social, cultural, and educational mainstream of American society” [Section 2 (a)(3)(A-F)]. During this time, the principles of self-determination began to be added to the education of students with disabilities (Wehmeyer, 2007). This change initiated the funding for six self-determination projects by the United States Department of Education for students with disabilities (Wehmeyer, 1999). The 2004 revision of the Individuals with Disabilities Education Act (IDEIA, 2004) included self-determination by requiring students to participate in their Individual Education Program (IEP).

## **Theoretical Models**

To understand and research self-determination in students with disabilities, two theoretical models emerged: Self-determined Learning Theory and Functional Theory of Self-determination. These theoretical frameworks derived from the self-determination constructs used in psychology (Wehmeyer, 2007). Each theory identified a different way to measure the self-determination of students with disabilities. Thus, it is essential to understand their theoretical frameworks to determine which method is most appropriate and valid for this study.

**Self-determined Learning Theory.** Self-determined Learning Theory established by Mithaug et al., (2003) focused on the “why” and “how” students learn and become self-determined. The theory seeks to identify student engagement in choice making when optimal opportunities are presented through learning (Mithaug et al., 2003). Self-determined Learning Theory focuses on how students are staying engaged as well as adjusting their expectations, choices, and actions to achieve their goals in school. The theory posits that self-determination in both students with and without disabilities will continuously evolve in all areas of life throughout their lifetime (Wehmeyer, 2007). Students must be motivated by learning to establish goals and adapt to challenges to successfully achieve their goals (Mithaug et al., 2003). Self-determined Learning Theory posits that students must have both the opportunity and capacity to become self-determined. To be self-determined, students must believe they have the opportunity to gain something attainable from their circumstances (Mithaug et al., 2003). Thus, interventions in Self-determined Learning Theory focus on the student’s opportunities and their beliefs about opportunities. Students must also have the capacity to regulate their expectations, choices, and actions to get the results they desire. Thus, Mithaug et al. (2003) believe that interventions in self-regulation and goal setting influence both opportunity and capacity for students to become

more self-determined. The theory supports that students must have the ability to set their own goals and not just goals that are set for them by others (Wehmeyer & Sands, 1998). Since this theory focuses on presented opportunities of goal setting as well as capacity and self-regulation through education in school, this theory would not be most appropriate for this study.

**Functional Theory of Self-determination.** The second theoretical perspective of self-determination is Wehmeyer's Functional Theory of Self-determination. This theory does not focus on behaviors, but on the function that those behaviors serve to the individual (Wehmeyer, 2003b). Wehmeyer (1992b) described self-determination as "the attitudes and abilities required to act as the primary causal agent in one's life and to make choices regarding one's actions free from undue external influence or interference" (p. 305). Wehmeyer created the Functional Theory of Self-determination in 1996. This theory focuses on four characteristics; autonomy, self-regulation, psychological empowerment, and self-realization (Wehmeyer, 1996b).

Autonomy is when a person acts according to his or her preference and independently, free from external influences (Wehmeyer, 1996b). To be self-regulated, one must be able to make decisions about skills to use in a given situation; this would include behaviors such as self-management, problem-solving, and goal setting (Wehmeyer, 1996b). Psychologically empowered behavior is when a person acts in a manner based on beliefs that they have control over the circumstances (locus of control), have the skills and confidence to achieve the desired outcome (self-efficacy), and behave in a manner in which they anticipate the consequences that will result (outcome expectation; Wehmeyer, 1996b). The final characteristic is self-realization. Self-realization is when a person uses a comprehensive, reasonably accurate, knowledge of themselves to identify their strengths and limitations to act in a manner to capitalize on this knowledge (Wehmeyer, 1996b).

This theoretical model was developed through a comprehensive review of the literature (Wehmeyer, 1992b) and focus groups that included people with intellectual disabilities and developmental disabilities (Wehmeyer, 1992a). The Functional Theory of Self-determination holds the belief that self-determination is a characteristic that uses a combination of cognitive, psychological, and physiological elements to influence behavior. The following are some of the components of self-determined behavior: choice making, decision making, problem-solving, goal setting, self-advocacy, self-awareness, self-knowledge, self-instruction, self-observation, self-evaluation, and self-reinforcement (Wehmeyer, 2007). The Functional Theory of Self-determination asserts that strengthening these components will lead to an increase in self-determination. For this study, the Functional Theory of Self-determination is used as the framework to help identify areas of self-determination that are impacted. The development of these skill areas is explored through the perceptions and experiences of the study participants.

### **Self-Determination in Blindness and Low Vision**

Self-determination is different for people with disabilities. Sighted children begin developing self-determination skills in preschool when they begin to visually pick out things they want, such as clothes and objects (Wolffe & Rosenblum, 2014). Children with vision loss are not able to learn self-determination skills incidentally like their sighted peers; these children must learn through purposeful instruction (Wolffe & Rosenblum, 2014). In 2003, self-determination was added to the Expanded Core Curriculum to help children with vision loss to develop self-determination skills (Hatlen, 2003). Although self-determination is one of the most critical skills needed to promote learning and independence (Wolffe & Rosenblum, 2014), the current literature in the self-determination of youth with visual impairments is minimal (Agran et al., 2007). In Table 2, a thorough review of research between 2003 and 2016, Cmar and



Markoski (2019) found 11 articles that met the following criteria: a) original research, b) included participants with visual impairments or deaf-blindness ages 5 to 22, c) measurement or an intervention in self-determination or its related themes, and d) disaggregated disability categories. The sample size of the studies ranged from 6 to 54 participants. Eight of the studies were conducted in the United States. The remaining three studies were from Nigeria (Eniola & Adebiyi, 2007), India (Jindal-Snape, 2005), and Egypt (Mohamed, Bayoumi, & Draz, 2011). Small sample sizes were a common theme across all the studies. The researchers determined that there is a need for more quality research in the self-determination of students with visual impairments.

Table 2

*Existing Literature on Research in Self-determination*

Design	Authors	Instrument	Dependent Variable(s)	Independent Variable(s)
Correlational	McDonnall & Crudden (2009)	Interview question on decision making	Employment	Self-determination skills
Correlational	Robinson & Lieberman (2004)	Self-Determination Exercise Scale: Student Edition	Opportunities for self-determination	Visual Impairment, gender, or age
Qualitative	Horvath, Kampfer-Bohach, & Kearns (2005)	Interviews, observations, documents	Use of accommodations during instruction and assessment	IEP accommodations

Table 2 (continued)

Qualitative	Bruce & Parker (2012)	Interviews, journals, discussion notes	Participatory Action	Advocacy and Civic Engagement Course
Qualitative	Bruce, Zatta, Gavin, & Stelzer (2016)	Observations, written documents, field notes	Interaction change, Socialization goals, Self-evaluation procedure impact on socialization goals, and interaction strategies	Arranged interactions between adolescent students with CHARGE syndrome and younger students with mixed etiologies of deaf-blindness
Group Experimental	Shapiro, Moffett, Lieberman, & Drummer (2005)	Self-Perception Profile	Self-perceptions of athletic competence, social acceptance, and physical appearance	One-week summer camp
Group Experimental	Eniola & Adebisi (2007)	Work Value Inventory	Motivation to work among students with visual impairments.	Motivation Skills Intervention: Goal setting and Emotional Intelligence
Quasi-Experimental	Levin & Rotheram-Fuller (2011)	AIR Self-Determination Scale	Students with a visual impairment self-perceived skills and opportunities to self-determination	Empowered Curriculum

Table 2 (continued)

Quasi-Experimental	Mohamed, Bayoumi, & Draz (2011)	Glaucoma knowledge questionnaire; observation checklist; physical, social, psychological assessments; patient expectations scale	Impact on glaucoma knowledge, practices, and expectations	An educational program on glaucoma
Single Subject	Jindal-Snape (2005)	Observations	Student's self-evaluation on the direction of gaze and task behavior	Researcher and peer feedback on the direction of gaze and task behavior
Single Subject	Ivy, Lather, Hatton, & Wehby (2016)	Observations	Student's self-management of chewing with mouth closed	Self-management intervention on pro-social

Note. Adapted from "Promoting self-determination for students with visual impairments: A review of the literature" by Cmar, J. L. & Markoski, K. 2019. *Journal of Visual Impairment & Blindness*, 113(2), 100-113.

When investigating the promotion of self-determination of students with visual impairments, Agran et al. (2007) found that 91% teachers of students with visual impairments responding to the survey believed that students with visual impairments have a greater or equal need for self-determination skills in comparison to students with different disabilities. The researchers also found that most of the teachers of students with visual impairments understood the value of self-determination skills and approximately two-thirds were providing some instruction in self-determination to their students.

There are only two studies that investigated increasing self-determination skills in children with visual impairments: Robinson and Lieberman (2004) and Levin and Rotheram-Fuller (2011). Robinson and Lieberman (2004) investigated the effects of visual impairments, gender, and age on opportunities for self-determination that were provided to students with visual impairments. The researchers measured self-determination in five domain areas: at home, with friends, health care, at school, and physical education. The 54 participants, visually impaired or deafblind, attended a one-week summer camp for children who are blind. The data were collected through questionnaires given to the participants at the camp using the Self-Determination Exercise Scale: Student Edition. The results of the study determined that the participant's level of visual acuity significantly affected their opportunities for self-determination in two domains: at school and health care. These results indicate a relationship between a higher level of vision and more opportunities for self-determination at school and in health care. Thus, youth with less vision had fewer opportunities in self-determination in these two domain areas. The researchers found no significant difference in the remaining three domains of self-determination: at home, with friends, and physical education (Robinson & Lieberman, 2004). There was also no significance found in all five domains for gender and age. This study's significance is that it identified that opportunities in self-determination in some areas, such as school and health care, are different based on the degree of the student's level of vision loss.

To measure the degree of self-determination, Levin and Rotheram-Fuller (2011) conducted a study using the empowered curriculum for adolescents with visual impairments. This program provided students the skills and opportunities to improve their perceptions of their self-determination. Thirty participants were students who attended a private school that had adopted and implemented the empowered curriculum in health class. The participants were

divided into cohorts A and B, with one group receiving the intervention for 15 weeks (one semester), and the other cohort would receive the intervention after the study was completed. The AIR Self-Determination Scale, the Tennessee Self-Concept Scale, and the Behavior Assessment System for Children were all used as measures in the intervention. A 2 X 2 repeated-measures analysis of variance was used to analyze the effects of the intervention on each dependent variable. The researchers found no improvements in the objective ratings of self-determination because of this intervention. Although there were no improvements, the students indicated a general liking for and appreciation of the intervention in the qualitative assessment. Thus, there is a need for more research to investigate self-determination in youth with vision loss, possibly through other research methods such as qualitative measures.

These studies identified how self-determination was being implemented at summer camps and schools as well as the benefits of self-determination for youth with vision loss. Additional research is needed in the field to find successful ways to improve self-determination inside and outside of school.

### **Qualitative Self-determination Research in Youth with Visual Impairments**

In a review of qualitative research in components of self-determination in youth with visual impairments, two studies were found. These two studies helped to form the foundation for this qualitative study in researching self-determination of youth with vision loss.

The multiple case study by Horvath et al. (2005) investigated the use of accommodations among deafblind students. The researchers used policy analysis, interviews, observations, and document analysis to explore the perspective of students, parents, and teachers on the use of the student's accommodations and self-determination. The researcher collected data on nine participants ranged in age from 10 to 16 years old across three southern states. All participants

had a minimum of mild hearing loss, coupled with a minimum of mild vision loss. In addition to the youth participants, the researcher also interviewed the remaining IEP team members: parents, teachers, and instructional assistants. Interviewing the IEP team members was essential to enrich the descriptions provided by the youth as well as increasing the accuracy of the data collection. Because of the small sample size and the multidimensional approach, the data were collected using a multiple case study approach. The researchers thoroughly explored the perspective of the IEP team by collecting data through interviews, observations, and documents.

The results of the study identified differences in state policies for accommodations. These differences were most significant with regard to standardized testing. The most common accommodations used were preferred seating and additional time. When exploring self-determination, the researchers found that students used an equal amount of self-determination in both the classroom and during assessments. The students demonstrated self-determination by choosing to use or not use appropriate accommodation. Although the youth chose not to use the accommodations, they were still offered the option of choice. The students did not use self-determination in a proactive approach. The findings identified a significant lack of student self-determination regarding accommodations. The researchers state that self-determination skills were a critical need and should be formally taught and included in student's IEP goals. The belief is that if the student is self-determined to request the preferred accommodation, they may actually use the accommodation (Horvath et al., 2005). This study demonstrated the benefits of using a qualitative approach to gain in-depth knowledge into perceptions of youth, parents, and teachers. There is little knowledge in the self-determination of youth with visual impairments. To explore self-determination in youth with visual impairments, it is helpful and useful to obtain multiple perspectives to gain depth and quality information.

A more recent qualitative study on self-determination explored the social skills and self-determination of youth with deaf-blindness (Bruce et al., 2016). The researchers used purposeful sampling to identify the six participants used for the study, ranging in age from 6 to 18. The study also included two adult participants who taught children who are deafblind. Using the grounded theory method, the researchers explored interactions between youth with CHARGE syndrome and youth with mixed etiologies of deaf-blindness. The six participants were paired up and met one time per month for six months in a classroom environment. The older participants in each set pair were asked to offer a choice of play-area to the younger child. The teachers were located just outside the interaction space to provide support when needed. Each 15-minute interaction session was video recorded. The participants were encouraged to use problem-solving techniques to interact with their paired partner. The older participant was provided with a feedback session within one week after the interaction session. The adult would review the video with the participant and discuss how the interactions went. The participant would then problem-solve what occurred during the session and set a new goal for the next interaction session. Data was collected through observations, written documents, and field notes. The researchers had the teachers review the comments they made and how they were organized under each research question as well as the codes and themes of the study to ensure accuracy. The researchers identified three themes from the study: joint attention, choices and preferences, and facilitating engagement (Bruce et al., 2016). The students were able to practice self-determination skills such as choice making, decision making, goal setting and attainments, problem-solving, and self-efficacy. They were also able to practice and develop social skills with one another. A significant limitation of the study is the generalizability due to the small sample size and the participant's familiarity with the location and other participants. The data collected supports the practice and

development of self-determination skills through many concept areas: choice making, decision making, goal setting and attainment, problem-solving, and self-efficacy. This study also supports the use of a qualitative data collection method to explore self-determination. Gaps in the literature identified that further research on the concepts of self-determination in youth with visual impairments is needed.

### **Summation of the Literature**

It is essential to review the history of educational rights for youth with disabilities to have a better understanding of the education of youth with visual impairments. This review sets the framework for when and how in-school services for youth with visual impairments began. As youth with visual impairments slowly gained rights in education, a group of professionals, consumer organizations, parents, and consumers, put together what they deemed as the most critical skills youth with visual impairments needed in their education, known as the Expanded Core Curriculum (Hatlen, 1996).

The committee that created the Expanded Core Curriculum believed that youth with disabilities had not only the right to be equal but also the right to be different, and their unique needs should also be met (Hatlen, 1996). Few studies have explored the Expanded Core Curriculum since its inception in 1997 (Lohmeier, 2005; Lohmeier et al., 2009). Some of the literature reviewed supports the Expanded Core Curriculum as a benefit to achieving success in adulthood. The two domains reviewed were orientation and mobility and self-determination. Orientation and mobility skills were shown to have benefits to a person with vision loss (Cmar, 2015; McDonnall, 2011). There was limited literature on self-determination with youth with vision loss. Pre-existing research described a concerning trend that there is limited time for



training and development in all areas of the Expanded Core Curriculum (Lohmeier, 2005; Lohmeier et al., 2009).

The self-determination domain in the Expanded Core Curriculum is a necessary skill for people with visual impairments to learn, but this is also one of the most overlooked skills to be taught and experienced in school (Agran et al., 2007). Even within the population of youth with visual impairments, youth with less vision are less likely to have self-determination opportunities in school and health care (Robinson & Leiberan, 2004). Since there is limited time to implement additional lessons and training on self-determination in school (Lohmeier, 2005), the researcher has sought to explore opportunities for self-determination for youth with visual impairments outside of school. The literature supports the need for additional research to identify other ways youth could learn Expanded Core Curriculum skills. This study aims to explore ways for youth to gain opportunities and practice self-determination in a program outside of school, such as Cane Quest.

## CHAPTER III

### METHODOLOGY

This study was conducted using qualitative analysis to explore the experiences and perceptions of self-determination. The purpose of this study was to explore self-determination in three main areas in youth with visual impairments. This study explores ways that youth with visual impairments gain capacity in their daily lives and at a long cane competition. The study also explores the four areas of self-determination opportunities (autonomy, self-regulation, psychological empowerment, and self-realization) of youth with visual impairments in their daily lives and at a long cane competition. The final area explored is the support youth with visual impairments have in their daily lives and at a long cane competition.

To gain in-depth knowledge of self-determination in youth with visual impairments, the exploration was done by exploring the shared experiences of youth and orientation and mobility specialists who attended a long cane competition. This chapter explains how the study was conducted; this includes the following information: research method, research design, sampling procedure, instruments, data collection, data analysis, trustworthiness, internal threats, and limitations.

#### **Research Method**

The three types of research methods used by researchers are qualitative, quantitative, and mixed methods (Fraenkel, Wallen, & Hyun, 2015). Qualitative methods of research “portrays a world in which reality is socially constructed, complex, and ever changing” (Glesne, 1999, p. 5).

This belief holds that the world is made of multiple realities that are socially constructed by each individual (Fraenkel et al., 2015). In contrast, quantitative researchers believe in a single reality, thus focusing on cause and effect relationships (Fraenkel et al., 2015). Some researchers use a blend of these two models, referred to as mixed methods (Fraenkel et al., 2015). To understand a situation or event from the participant's perspective, a researcher would use the qualitative method (Fraenkel et al., 2015). This study will not be testing a hypothesis that is used in quantitative and mixed-method studies to explore self-determination in youth with visual impairments. The qualitative method allows for exploration into various experiences and perceptions of participants in this study.

### **Research Design**

Both orientation and mobility specialists and youth with visual impairments interact with one another in both daily life and at a long cane competition. These interactions allow both groups to form a constructed reality. To understand these constructed realities, paradigms are used as a framework or roadmap to guide qualitative researchers (Glesne, 1999). Developed by Edmund Husserl, the philosophy of phenomenology asserts that "human consciousness actively constitutes the objects of experience" (Glesne, 1999, p. 7.). The phenomenological paradigm focuses on several individuals' collective lived experiences of a phenomenon and how they perceive the experience (Creswell, 2007; Glesne, 1999). Researchers using the phenomenological approach to collect data from persons who have experienced a phenomenon, develop a collective description of the experience (Creswell, 2007). Using the phenomenological approach, the researcher must interpret the meanings of all the participants (Creswell, 2007). This study used the phenomenological paradigm to explore the perceptions and experiences of youth with visual impairments who participated in a long cane competition. This paradigm was

chosen to obtain meaning from the “lived experiences” (Starks & Trinidad, 2007) of opportunities to practice self-determination skills for youth with visual impairments.

### **Sampling Procedures**

#### **Cane Quest**

Since the participants shared the experience of Cane Quest 2018, it is essential to describe the event used for this study. Cane Quest is a competition for youth with visual impairments who use a long cane. This competition was created by Braille Institute of America Inc in 2011. The 2018 Cane Quest competition was held in October at the California State University of Los Angeles campus in Los Angeles, California. Several long cane competitions have been started in other states as the Cane Quest program continues to grow. Cane Quest is a competition that tests youth with visual impairments on orientation and mobility skills. Youth with visual impairments are taught these long cane skills throughout the school year by their orientation and mobility instructor. These skills increase independence for youth with visual impairments to navigate the world around them safely. During the competition, youth participants were given auditory route directions to complete the course. While on these routes, the youth had to demonstrate proper travel techniques and use appropriate cane skills to complete secret routes around the college community in the Los Angeles area (Braille Institute of America Inc., 2018). The competition course included various environments such as residential areas, commercial areas, stores, and buses. Orientation and mobility instructors volunteered at the competition as evaluators. They were stationed at locations throughout the route to evaluate the youth participants on the long cane skills they used. Participants were scored using a rubric to grade how well each skill was performed. The top participants in each competition category would receive a prize at the end of the competition. In addition to orientation and mobility

specialists, trained volunteers called Route Monitors were always on the course to monitor participants and ensure the safety of the participants.

### **Sampling Recruitment**

Purposeful sampling was used to identify potential participants for this study (Patton, 2002). The participants included youth with visual impairments and orientation and mobility specialists. To understand the experiences and perceptions of self-determination opportunities that occur for youth in the long cane competition, youth participants who attended Cane Quest 2018 in Los Angeles, California were asked to participate in the study. The youth Cane Quest participants include students from private and public schools. Participants of Cane Quest identified the school they attended when registering for the competition, so purposeful selection of participants was used to choose the youth who attended public school and excluded youth who attended private school. Purposeful sampling was also used to select the orientation and mobility specialists. This study included orientation and mobility specialists who both worked with youth in the school district and attended Cane Quest 2018 to explore the perceptions of self-determination opportunities that occur for youth at a long cane competition from the view of the orientation and mobility specialists who attended. This selected sample allows the researcher to explore self-determination opportunities that occur in both Cane Quest and the youth's daily lives. The target recruitment number was approximately eight youth participants and eight orientation and mobility specialists. Similar qualitative studies in self-determination with participants with vision loss had between five and nine participants (Bruce et al., 2016; Horvath et al., 2005). Phenomenology research studies are recommended to have approximately 5 to 25 participants (Creswell, 2007).

## **Inclusion Criteria**

The criteria used for eligibility to participate in Cane Quest were also used as inclusion criteria for the youth participants in this study. Participant criteria included: youth Grades 7 to 12, receiving orientation and mobility services, a diagnosis of a moderate or severe visual impairment, use a long cane for travel, ability to follow detailed auditory instructions, and ability to walk for at least one hour at a time. Cane Quest had the same grade categories every year; Scouts Grades 3 to 6, Explorers Grades 7 to 9, and Trailblazers Grades 10 to 12. The Explorers and Trailblazer were independent travelers on the competition routes, whereas the Scouts were partnered in teams with a sighted volunteer. For this study, only the participants in the Explorer and Trailblazer categories were eligible. Each grade category is then separated into subgroups based on the reported level of vision from the orientation and mobility specialist; B1 and B2. The definitions for each group are based on the level of vision categories defined by the United States Association of Blind Athletes (n.d., para. 1). The B1 level includes participants with “no light perception in either eye up to light perception, but the inability to recognize the shape of a hand at any distance or in any direction” (United States Association of Blind Athletes, n.d., para. 1). Level B2 includes participants with the “ability to recognize the shape of a hand up to visual acuity of 20/600 and/or a visual field of fewer than 5 degrees in the best eye with the best practical eye correction” (United States Association of Blind Athletes, n.d., para. 1).

The youth participants for this study were identified through purposeful sampling. In 2018, Cane Quest had 12 Explorer participants with eight as a B1 and four as a B2. For the Trailblazers they had 17 participants with 14 as a B1 and three as a B2. The Director of Programs at the Braille Institute identified a pool of 10 participants of different ages, vision levels, and gender to ensure a variety of participants. All 10 participants were invited to

participate by an in-person invitation or over the phone using a recruitment script. A total of six parents agreed for their child to participate and filled out a parent permission form. Before participating, all six youth participants signed an assent form to participate. Five of the youth participants were able to participate in the focus group session held at the Braille Institute location in Anaheim, California.

For an in-depth exploration into the multiple perspectives and experiences of self-determination at the long cane competition, orientation and mobility specialists who volunteered at Cane Quest 2018 in Los Angeles were recruited to participate. The population of orientation and mobility specialists were recruited through the Southern California Association of Orientation and Mobility Specialists (S-CAOMS) located in Southern California. The President of S-CAOMS identified a pool of 42 orientation and mobility specialists who attended Cane Quest 2018 in Los Angeles, California. The pool of participants was then reduced to 25 by identifying those who provide orientation and mobility services to youth in a school district. The researcher recruited orientation and mobility specialist participants through an invitation over the phone using a recruitment script. A total of 10 orientation and mobility specialists agreed to participate. Out of the 10 orientation and mobility specialists, only four were available to participate in the phone focus group session.

### **Participant Demographics**

For this study, there were a total of six youth with visual impairments and 10 orientation and mobility specialists. The participants were assigned randomly generated pseudonyms to protect the identity and confidentiality of the participants. The youth participants were referred to by the following names: Simon, Mark, Kimberly, Hannah, Chloe, and Kate. All the youth participants were between the ages of 12 and 18 with a visual impairment. In the individual

interview, the youth participants were asked if they had an additional disability; all youth participants stated they did not. Two of the youth participants were male, and the remaining four were female. The participants were also diverse in both visual impairment level and competition level. In the youth participants, four had a vision loss of B1 (no light perception in either eye up to light perception), and two had a vision loss of B2 (visual acuity of 20/600 and/or a visual field of fewer than 5 degrees). The competition levels were based on grade level with an even split of three participants being Explorers (Grades 7 to 9) and three participants as Trailblazers (Grades 10 to 12). Since the competition was in Los Angeles, the participants lived close to the area in either Los Angeles County or Orange County, California. The group was also mixed based on years of Cane Quest attendance. For one participant, this was her first year, whereas others had participated multiple times. The participant groups, although small, are diverse to provide a wider variety of perceptions from the youth participants. This diversity was intentional through purposeful sampling to ensure a varied group, as shown in Table 3.

Table 3

*Description of Youth Participants*

Youth Participants	Age	Gender	Visual Impairment Level	Competition Level	County	Population Size
Simon	13	M	B1	Explorer	Los Angeles	10.1 million
Mark	18	M	B1	Trailblazer	Los Angeles	10.1 million
Kimberly	15	F	B1	Trailblazer	Orange	3.1 million
Hannah	14	F	B2	Explorer	Orange	3.1 million
Chloe	12	F	B2	Explorer	Orange	3.1 million



Table 3 (continued)

Kate	15	F	B1	Trailblazer	Orange	3.1 million
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Note. Population size retrieved from U.S. Census Bureau. (2019). Annual estimates of the resident population: April 1, 2010 to July 1, 2018. U.S. Census Bureau, Washington, DC.

The orientation and mobility specialist participants were identified as Haley, Joy, Andrea, Alison, Monica, Brian, Shirley, Stewart, Grace, and Amber. Eight of the orientation and mobility specialists were female, and the remaining two were male. This group of participants ranged in years of experience from 1.5 to 24 years as an orientation and mobility specialist. Their caseload sizes ranged from 12 to 38 students in the school district. Since orientation and mobility specialists are geographically spread out, this group was from a wide variety of counties. The furthest orientation and mobility specialist traveled over two hours to attend Cane Quest in Los Angeles, California. All orientation and mobility specialist participants were working in a school district with youth. Although not intentional, none of the orientation and mobility specialists who participated were instructors of the youth participants in this study. Descriptions of the orientation and mobility specialists are displayed in Table 4.

Table 4

*Description of Orientation and Mobility Specialists*

Orientation and Mobility Participants	Gender	Years as an O&M	Caseload Size	County	Population Size
Haley	F	9	13	Los Angeles	10.1 million
Joy	F	8	21	San Bernardino	2.2 million
Andrea	F	20	16	San Diego	3.3 million

Table 4 (continued)

Alison	F	24	32	San Bernardino	2.2 million
Monica	F	1.5	38	Riverside	2.5 million
Brian	M	22	14	Los Angeles	10.1 million
Shirley	F	14	12	Los Angeles	10.1 million
Stewart	M	20	22	Los Angeles	10.1 million
Grace	F	10	22	Santa Barbara	446,527
Amber	F	1.5	20	Los Angeles	10.1 million

Note. Population size retrieved from U.S. Census Bureau. (2019). Annual estimates of the resident population: April 1, 2010 to July 1, 2018. U.S. Census Bureau, Washington, DC.

### **Instruments**

The primary data collection instrument was the researcher of this study. The researcher collected and analyzed the data using interviews, focus groups, and documents. One-on-one interviews allowed for exploration into the perceptions and experiences of the participants. Open-ended interview questions were used in a qualitative study to investigate the perceptions of adults with visual impairments on orientation and mobility instruction and services (Griffin-Shirley, Kelly, Matlock, & Page, 2006). Bruce and Parker (2012) found that interviews captured the insights of participants with visual impairments in the acquisition of self-determination and advocacy. Horvath et al. (2005) used structured interviews, document collection, and observations to collect data on the perceptions of youth's self-determination regarding accommodations in school. To explore mobility concerns in people with vision loss, Ball and Nicholle (2015) collected data through face-to-face, phone interviews, and focus groups with participants with visual impairments as well as rehabilitation specialists. Bjorg (2016) also used semi-structured, one-on-one in-person, and telephone interviews to explore the perceptions and

experiences of the Expanded Core Curriculum among teachers of students with visual impairments. The top three methods for collecting data through phenomenology are interviews, focus groups, and documents (Glesne, 1999). Interviews with participants allow for the exploration of alternative explanations of what occurred (Glesne, 1999). For this study, open-ended interview questions over the telephone focused on details that addressed the research questions. The researcher also conducted two focus group sessions to explore areas of self-determination opportunities with the groups as a whole. The researcher also used registration forms, orientation and mobility skills checklist, competition score documentation from Cane Quest, and the youth's IEP to add support to the participant's experiences as well as add to the information collected on self-determination opportunities.

### **Data Collection Procedures**

The data collection procedures for this study included interviews, focus groups, and document collection. A semi-structured interview protocol was used for both the youth and orientation and mobility specialists (see Appendix A and B). Since the semi-structured interview allowed participants to give diverse answers, additional follow up questions were used during the session for clarification and to keep the participant within the topic of the study. The researcher also took notes while conducting the interviews. Both the individual interviews and the focus group sessions were digitally recorded and transcribed. Before recording, all participants were reminded of the recording procedure.

All participants were interviewed one-on-one over the phone. Phone interviews were used to minimize anxiety and nervousness for the youth with visual impairments. Conducting interviews over the phone made it easier for the participants to participate by reducing travel costs and time for all. Many studies have found no significant difference in qualitative data

collected through telephone interviews when compared to in-person interviews (Sturges & Hanrahan, 2004; Vogl, 2013) In-person interviews do not guarantee that successful rapport will occur between researcher and participant (Trier-Bieniek, 2012). Other researchers have found that a researcher could gain meaningful and in-depth data as well as build rapport with participants over the phone (Chapple, 1999; Stephens, 2007). The main reason telephone interviews were used was to create an increased balance of power between the researcher and participants (Vogl, 2013). This balance of power was important to help the youth feel more open when talking about their experiences with the researcher. The researcher also wanted the youth participants to feel comfortable when discussing what they can and cannot do without fear of judgment. The duration of each interview is displayed in Tables 5 and 6.

Table 5

*Youth Interview Durations*

Interview Subject	Duration (minutes)
Simon	32.05
Mark	37.52
Kimberly	16.19
Hannah	19.48
Chloe	21.14
Kate	29.41

Table 6

*Orientation and Mobility Specialist Interview Durations*

Participant	Duration (minutes)
Haley	52.21
Joy	59.12
Andrea	68.11
Alison	65.34
Monica	42.45
Brian	37.47
Shirley	45.50
Stewart	42.55
Grace	28.31
Amber	37.13

To gain in-depth knowledge of the research questions, the researcher conducted two focus group sessions (see Appendix C and D). The researcher used open-ended questions for group discussion. The researcher's role was to act as a guide to keep the group on topic and encourage engagement among group members. The focus group for the youth with visual impairments was held in-person at the Braille Institute in Anaheim, California. Five out of the six youth participants were able to attend the focus group session. The youth focus group session was 70:52 minutes in length. The focus group session with the orientation and mobility specialists was conducted over the telephone. Because the orientation and mobility specialists

were geographically spread out, only one confirmed she could meet in person. The focus group was changed to a conference call option, and four participants out of the 10 in this study were able to participate. The focus group session lasted 69:06 minutes in length.

To increase participation, youth participants were offered a \$20 gift card for participating in the one-on-one phone interview and an additional \$20 gift card for participating in the in-person focus group. Gift cards were offered for the following locations: Apple iTunes, Amazon, Target, Walmart, or Starbucks. Since the orientation and mobility specialists were more likely to participate as a professional courtesy for the field, they were offered a \$20 gift card as an incentive to participate in the focus group session.

The final method of data collection was through document collection. After the youth participant's parent signed the parental consent form, the researcher requested a copy of the IEP goals for their child. IEPs were requested to help the researcher identify any self-determination or independence goals the youth may have. One out of the six participants sent their IEP to the researcher. The researcher collected the following documents from the Braille Institute for this study: parent permission forms, contest application forms (including the skills checklist), Cane Quest route maps for on and off-campus, and Cane Quest participant's scores only for the participants in this study. The parent permission form was used to provide demographic information on each participant. To identify the youth participant's level of orientation and mobility skills outside of Cane Quest, the skills checklist completed by the youth's orientation and mobility instructor was used. The skills checklist sheet identifies scores on a scale of 1 to 4, where 1 represents poor and 4 represents excellence (see Appendix E). Cane Quest route maps were used to identify the Cane Quest scores for each skill station (see Appendix F). The Cane Quest scores were used to identify how the participants performed at Cane Quest as well as

exploring these scores with their perceptions of their orientation and mobility skills. The following section will discuss the procedure for how the data were analyzed.

### **Data Analysis Procedures**

Researchers using the phenomenological approach are expected to explore a phenomenon, reflect on essential themes and the nature of the lived experiences of the participants, describe the phenomenon, and interpret the meanings of the lived experiences (Creswell, 2007). To improve interpretation accuracy, Creswell (2007) recommends researchers “bracket” him/herself by setting aside their experiences as much as possible. Creswell (2007) recommends that researchers “begin a project by describing their own experience with the phenomenon and bracketing out their views before proceeding with the experiences of others” (p. 60). Before data were collected, the researcher wrote out her perceptions and experiences with orientation and mobility and self-determination. The researcher also included her thoughts on Cane Quest:

Orientation and mobility skills are essential for youth with visual impairments to gain independence. It only seems natural that by developing these skills will also influence an increase in self-determination. Every person with or without a disability benefits from positive self-determination. Cane Quest is an excellent opportunity for youth with visual impairments to experience and practice these two areas of the Expanded Core Curriculum outside of school.

To analyze the data collected, the researcher transcribed the participant interviews and focus groups to gain an overall observation of the data. During the interviews and focus groups, the researcher took field notes to identify thoughts and significant statements that occurred during the interviews. The participants and Cane Quest personnel provided documents used for data

analysis. To organize and analyze the data, the researcher used NVivo 12 software. NVivo 12 is designed to store various types of qualitative data, organize data, analyze codes, and conduct auto coding analysis. This method of organization allowed the researcher to analyze each piece of data, take notes, and identify codes, themes, and unique findings. This coding process took place in the NVivo 12 software for the transcribed interviews and focus groups, field notes, and collected documents.

To begin data exploration, the researcher used deductive analysis to identify themes (Creswell, 2007) found in Wehmeyer's Functional Theory of Self-determination: support, opportunities, and capacity. Opportunities were broken down into the four areas of self-determination identified in the theoretical framework: autonomy, self-regulation, psychological empowerment, and self-realization. For further exploration, the researcher also identified sub-themes found within the themes (Creswell, 2007). Initially, when coding the data collected, all coding was separated into daily life and Cane Quest. Daily life included anything that occurred at school, home, or in the community. This separation was done to evaluate what the youth and orientation mobility specialists were experiencing on a day-to-day basis, thus, creating a foundation for comparison to highlight the unique opportunities that occurred at Cane Quest. All coding associated with Cane Quest included anything occurring or directly related to Cane Quest. These codes also included youth's statements about preparation for Cane Quest with their orientation and mobility specialists at school. The focus of the study was to explore the youth's capacity, opportunities, and support gained at Cane Quest. In the initial coding process, the following thematic codes were used for both the daily life and Cane Quest categories: knowledge attainment, capacity barriers, autonomy, self-regulation, psychological empowerment, self-realization, opportunity barriers, and support. Each thematic code was then broken down into



sub-themes. Two thematic codes were found in Cane Quest: Cane Quest descriptions and Cane Quest feelings. The following terms were used to identify opportunities in the four areas of self-determination opportunities: autonomy (independence, self-advocacy), self-regulation (problem-solving and goal setting), psychological empowerment (creative decision making, confidence), and self-realization (facing new challenges and understanding own abilities). After the initial round of coding, there were no coded phrases for Cane Quest knowledge attainment or Cane Quest capacity barriers. The two missing themes were determined to be absent because youth are not learning and attaining knowledge; therefore, they do not lack in capacity at Cane Quest. These themes were removed from the final coding analysis.

In the second round of coding, an inductive analysis was used to identify new themes and sub-themes that were not previously found in the theoretical framework. This method creates a thick description of the phenomenon, rather than restrict the findings based on the theoretical framework (Creswell, 2007). This analysis was done by analyzing each piece of data using the NVIVO 12 software. The researcher also ran code frequencies and word frequencies to identify any patterns in the data. Table 7 displays the initial codes for the first round of coding. Additional emergent codes that were discovered during the second round are displayed in Table 8.

Table 7

*Initial Coding*

Initial Codes		
Thematic Code		Sub-themes
Life	Knowledge Attainment	
	Capacity Barriers	
	Opportunities Autonomy	Independence Self-advocacy
	Opportunities Self-regulation	Problem Solving Goal Setting
	Opportunities Psychological Empowerment	Creative Decision Making Confidence
	Opportunities Self-realization	Facing New Challenges Understanding Own Abilities
	Opportunity Barriers	
	Support	
Cane Quest	Knowledge Attainment	
	Capacity Barrier	
	Opportunities Autonomy	Independence Self-advocacy
	Opportunities Self-regulation	Problem Solving Goal Setting

Table 7 (continued)

Cane Quest	Opportunities Psychological Empowerment	Creative Decision Making Confidence
	Opportunities Self-realization	New Challenges Understanding Own Abilities
	Support	
	Description	
	Feelings	

Table 8

*Additional Emergent Coding*

Additional Emergent Codes		
Thematic Code		Sub-themes
Life	Capacity Motivation	
	Orientation and Mobility Roles	
	Lacking Knowledge	
	Opportunities External Programs	
	Opportunity Barriers	Barrier Liability/Fear Barrier Time
	Aides and Paraeducators	

Table 8 (continued)

Life	Beneficial Support	
	Learned Helplessness	
Cane Quest	Support	Beneficial Support Over-helping Orientation and Mobility Peer Support Youth Peer Support Community Opportunity Benefits

Table 9 displays the final codes for the study as well as their frequency of appearance in the data and the number of data sources (individual interviews and focus groups) the code came from. This final set of codes were used by the researcher to identify the results and develop a description of the experiences that occurred in the participant's daily life and at Cane Quest.

Table 9

*Final Code Frequency*

Thematic Code	Frequency	Data Source Frequency
Life Opportunities Psychological Empowerment	90	16
Cane Quest Support	82	17
Life Opportunities Autonomy	79	17
Life Knowledge Attainment	69	16

Table 9 (continued)

Cane Quest Opportunities Self-realization	62	16
Life Capacity Barriers	59	9
Cane Quest Opportunities Psychological Empowerment	59	17
Life Opportunities Self-realization	59	16
Cane Quest Opportunities Self-regulation	57	16
Cane Quest Feelings	50	17
Cane Quest Opportunities Autonomy	46	17
Life Opportunities Self-regulation	46	16
Life Opportunity Barriers	45	10
Life Learned Helplessness	41	15
Cane Quest Description	37	12
Life Opportunities External Programs	28	8
Aides and Paraeducators	25	16
Life Lacking Knowledge	18	7
Life Beneficial Support	15	14
Orientation and Mobility Roles	9	4
Life Capacity Motivation	5	2

Table 10 reflects how the themes align with each category of the study. The following thematic codes with fewer data support were removed from the final categories: life lacking knowledge and life capacity motivation. Although life beneficial support and orientation and

mobility roles were also among this group as well, these were included in the final categories because of their connection with the theoretical framework. Using the data and the theoretical framework, the researcher will aim to capture the perspectives of all the participants in the shared phenomenon. The category and thematic codes are reflected in the Results and Discussion sections.

Table 10

*Categories and Thematic Codes*

Categories	Thematic Codes
Capacity in Life	The Role of the Orientation and Mobility Specialist Knowledge Attainment Barriers to Capacity
Opportunities in Life	Opportunities in Autonomy Opportunities in Self-regulation Opportunities in Psychological Empowerment Opportunities in Self-realization Opportunities in External Programs Barriers to Opportunities
Support in Life	Aides and Paraeducators Beneficial Support Learned Helplessness
Cane Quest	Describing Cane Quest Cane Quest Feelings

Table 10 (continued)

Cane Quest	<p>Opportunities in Autonomy</p> <p>Opportunities in Self-regulation</p> <p>Opportunities in Psychological Empowerment</p> <p>Opportunities in Self-realization</p> <p>Support at Cane Quest</p>
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### **Trustworthiness**

To increase reliability, all interviews and focus group sessions were digitally recorded using a recording device. Digitally recording increases accuracy during data analysis. The researcher also took field notes during the interviews and focus group sessions. Data triangulation is used to strengthen and increase research validity. Triangulation was done using three different data collection methods to create depth and clarity for the themes explored: individual interviews, focus group interviews, and document collection (Creswell, 2007). The individual interviews allow the researcher to examine self-determination with each participant from their perspective. The focus group session allowed for the participants to hear other peoples' views, while contributing their own, thus creating a group perspective of the phenomenon. The third data method was documentation collection. Documents were collected from participants and Cane Quest personnel to add greater depth and understanding to the individual and group perspectives.

Another method for validation is clarifying researcher bias. The researcher should identify their position and any biases or assumptions that may impact the research data collection and reported findings (Creswell, 2007). To do this, Creswell (2007) stated that researchers

should detail their past experiences and biases that could influence the study. As an orientation and mobility specialist for over five years, I must be conscious of any biases as a result of my experiences of working in the school districts. To do this, I ensured that I was only taking direct quotes from the participants to support the results that were found, rather than interpret for the participants. As a researcher, I aimed to be mindful of any biases. To ensure that I would not lead participants, I wrote down generic follow-up questions to use if a further explanation was needed. An example of a pre-determined follow-up question is, “can you provide an example?” The example provided by the participant adds depth to support the participants’ answers.

An interrater reliability check was used to establish the reliability of the codes used for the two focus group sessions in the research study. To ensure the accuracy of coding, the researcher requested the assistance of another researcher to help validate the main codes used in the study. This method is used to check the primary researcher’s bias and assumptions (Miles & Huberman, 1994). After the primary researcher transcribed all the phone recordings, themes and subthemes were identified through an inductive approach to the analysis. The researcher created a coding rubric including the main codes, their definitions, and how to identify the themes and subthemes for each (see Appendix G). The researchers then discussed the coding rubric and made the necessary changes to establish clear identification of each code before analyzing the focus group sessions based on the method by Campbell, Quincy, Osserman, and Pedersen (2013).

The primary researcher chose an adult individual phone interview and sent the typed transcript and audio recording to the fellow researcher. These individual interview analyses were used to further clarify the codes and operational definitions to ensure codes were applied consistently. Each researcher coded the same transcript separately, and the primary researcher



compared the two coded documents. The principal researcher measured the intercoder reliability agreement score for the study's codes based on Miles and Huberman's (1994) method of dividing the number of agreements by the number of agreements plus disagreements. The two researchers met to discuss and adjusted the rubric until 95% or higher agreement was met, as recommended by Miles and Huberman (1994). Once an agreement was established for the coding rubric, the researchers then analyzed the two focus group sessions by using the typed transcripts and the audio files. For the orientation and mobility focus group transcript, each researcher coded the transcripts separately. The primary researcher compared to two coded transcripts and identified a 69% agreement. After the two researchers discussed each code that did not match, they came to a 100% agreement on the codes. This method is known as a "negotiated agreement" where the two researchers will meet together to discuss the discrepancies and come to an agreement on the final decision on the code (Campbell et al., 2013). The youth focus group session was then distributed among the two researchers to be coded independently. When comparing the two researcher's coded transcriptions, there was a 90% agreement. After discussing the remaining coding conflicts, the researchers came to a 95% agreement.

### **Internal Threats**

Internal threats are always possible, and there are attempts to control these threats through various means. The first threat identified was to ensure that the students were not influenced when being interviewed. This population is young, so it is essential to ensure that their answers were recorded and not what their parents or other people close to them think their answers should be. To attempt to get the most authentic answers possible from the youth participants, the researcher conducted the individual interview over the phone and documented if there were any interferences. There is also a concern regarding the researcher's biases. The

researcher conducted the phone interviews and analyzed the data thus, there are concerns the researcher may view some outcomes more positively and fail to see other important details. To help minimize this, the researcher requested assistance from another researcher to conduct an intercoder reliability check using the same methodologies to compare the findings as well as comparing notes. Even with several threats to internal validity, the researcher made every attempt to address these concerns and minimize their effects on the study.

### **Limitations**

The limitations of this study were like those found in the literature. The first limitation identified was the small sample size. With research being conducted on a low incidence disability, there is always the challenge of not getting a large enough sample size to generalize the findings. A total of 10 orientation and mobility specialists participated in the study, out of the 25 orientation and mobility specialists who qualified for the study. For the youth participants, 29 qualified for the study, six youth were able to participate. Using a purposeful sampling procedure, the researcher is limited to data collection based on the number of participants willing to participate. The findings are not generalizable to the population of youth with visual impairments, but with purposeful sampling, the researcher selected a variety of participants to create a more diverse sample (Patton, 2002).

Interviews were also a limitation in data collection. Participants may have errors in recalling information, react differently to the interviewer, or provided self-serving responses (Patton, 2002, p. 306). Participant responses are biased and may be filled with mixed emotions that impact their answers to interview questions (Patton, 2002). Another limitation of the study is the researcher's previous contact with the orientation and mobility specialists. The researcher was the previous President of the Southern California Association of Orientation and Mobility

Specialists. To account for any previous interactions, the researcher had the current S-CAOMS President choose the orientation and mobility participants. In turn, the orientation and mobility specialists may have felt more comfortable to answer questions in the interview and focus group because they knew they were talking to a fellow orientation and mobility specialist who had worked in the school district, but they may also answer questions based on what they want the researcher to hear.

## CHAPTER IV

### FINDINGS

Through a thorough evaluation of the data collection using indicative and deductive analysis, four main thematic categories were identified. In daily life, youth with visual impairments experience self-determination through a) capacity, b) opportunities, and c) support. The fourth identified thematic category is the exploration of Cane Quest. At Cane Quest, youth with visual impairments gained many opportunities in self-determination and support. The results of this study identify the positives and negatives that occur in each area explored for each thematic code. These categories and sub-themes are based on Wehmeyer's (1999) Functional Theory of Self-determination Graphic Model displayed in Figure 1.

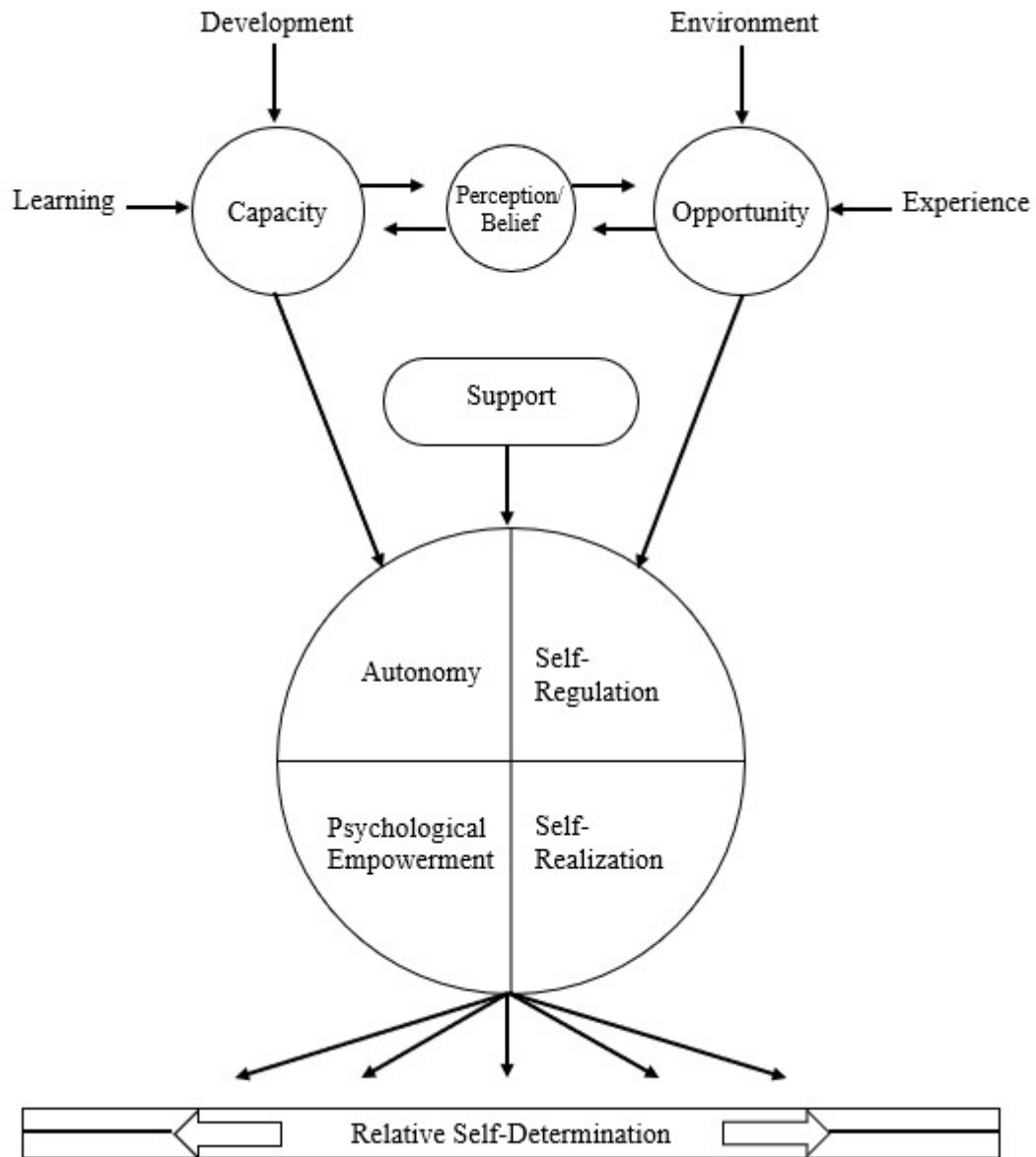


Figure 1. Self-determination graphic model.

Reprinted from “A functional model of self-determination: Describing development and implementing instruction” by Wehmeyer, 1999, *Focus on Autism and Other Developmental Disabilities*, 14(1), 53-61.

## **Description of Youth Participants**

### **Simon**

Simon was a 13-years-old eighth-grader from Los Angeles County, California. He was social, kind, and supportive of others. Simon continually told others how great their ideas were in the focus group and always had something positive to add. He was knowledgeable in orientation and mobility skills and loved to describe his abilities. In the group interview, Simon appeared to love to give input and appeared comfortable and confident talking about his experiences. When conducting the individual interview, he appeared comfortable talking about his strengths and weaknesses in his ability to be independent at home, school, and at Cane Quest. Simon had attended Cane Quest three times; once as a Scout, a non-competitive youth program at Cane Quest for grades 3 to 6, and twice as an Explorer. Simon competed as a B1 competitor, which means he had little to no light perception. His mother introduced him to Cane Quest. He was excited, but a little nervous about testing out his skills.

Based on his skills checklist filled out by his orientation and mobility instructor, he averaged a total score of 97 out of 148, which was the lowest of the six participants in this study. Of the three Explorers in this study, Simon's overall Cane Quest score was the second highest. His highest score was a perfect score of 4 in cardinal directions skills, whereas his lowest score was the constant contact cane skill. He had a great enthusiasm to continue to learn and stated his excitement to improve each year.

### **Mark**

Mark was adamant in expressing his sadness that this was the last Cane Quest he could compete in since he was now 18-years-old. He was a senior in high school from Los Angeles County, California. Although he had a quiet voice, Mark was clear about his thoughts on the

importance of orientation and mobility skills. His strong feelings and opinions derived from a bad experience that left him fearful of traveling independently in the community. Mark does his best not to let fear get the best of him. He made several comments regarding the benefits of gaining experience and practice to overcome his fears of traveling in the community. Mark attended Cane Quest twice as a B1 competitor, although not consecutively. He heard about Cane Quest through his friends who participated in Cane Quest. Mark stated he felt that mobility and friends were the two things that motivated him to participate.

When compared to the other five youth participants in this study, Mark had an average skills checklist score of 98. This score was the same as two other participants. Although Mark's Cane Quest scores were the lowest of the three Trailblazers in this study, his description of his travel skills experiences was the highest of all the participants. At Cane Quest, he scored highest in obstacle detection skills and the lowest in traffic light crossings. His lowest scored skill station aligns with the descriptions of his fearful past experiences. Although he knows he struggles, he maintained a positive attitude.

### **Kimberly**

Kimberly was the most confident and experienced of all the participants. She was a 15-year-old sophomore from Orange County, California. She had attended all the Cane Quests since its inception as a B1 competitor. She participated in all three Cane Quest categories, Scout, Explorer, and Trailblazer. When Kimberly arrived at the focus group session, she was the only participant guided into the room. After the session ended, she asked for someone to guide her to the bathroom. Although she was guided, Kimberly was the most confident when talking about her skills at school and at Cane Quest. She was also knowledgeable about Cane Quest and was comfortable answering the other participant's questions about the competition. Kimberly first

learned about Cane Quest when she was in elementary school from her teacher of students with visual impairments.

Her orientation and mobility skills checklist had a total score of 128; the highest skills score out of the six participants in this study. Two-point touch was her highest score, whereas crossing a business driveway was her lowest score area at the Cane Quest competition. When compared to the six participants in this study, Kimberly also had the highest Cane Quest score area in the most difficult Cane Quest category, Explorers. Her high confidence and descriptions of her abilities were reflected in these high scores.

## **Hannah**

Hannah was the softest-spoken participant in the study and did not talk much. She was a 14-year-old freshman from Orange County, California. She was a little shy when she first came into the focus group session, but after a while, Hannah began to talk more. Out of all the participants, she appeared the least confident in talking about her orientation and mobility abilities. When asked about her orientation and mobility skills in the individual interview, she was more confident in stating that she was relatively independent. This Cane Quest was her first, and she was nervous about participating. Her biggest worry was that she would be tested on something she did not know. She learned about Cane Quest through her participation in other activities at the Braille Institute.

Hannah participated in Cane Quest as a B2 competitor, meaning she could see as little as shapes or as much as 20/600 and/or a visual field of less than 5 degrees. Despite her caution when discussing her abilities, her skills checklist completed by her orientation and mobility specialist rated her as the second highest when compared to the other five participants in this study, with a score of 99. Her Cane Quest scores were the lowest of the other two Explorers. Her



highest score was in traffic light crossings, higher than the other two Explorers. Her lowest-scoring skill area was the touch and drag technique. These scores show that Hannah was a strong competitor when compared to the other competitors in her age and category group.

### **Chloe**

Chloe was a 12 year old in the 7<sup>th</sup> grade from Orange County, California. She had a happy personality and loved to joke around with others. She was polite in the focus group but made lots of little comments that would get the group laughing. She contributed to the focus group conversation but had shorter responses in the individual interview. She seemed to enjoy being around her friends and visiting with others. She had attended Cane Quest three times as a B2 competitor. She learned about Cane Quest from her teacher and wanted to try it out because she was curious.

Chloe's orientation and mobility skills score, 98, was the same as two other participants. In the Explorer category, Chloe had the highest score of the other two Explorer contestants in this study. Her highest score was a perfect score of 4 for the boulevard stop crossing skill and cardinal directions. Her lowest score was the constant contact skill station. Although she stated she was nervous at the start of Cane Quest, she enjoyed the challenges and made new friends.

### **Kate**

The final youth participant, Kate, was a 15-year-old sophomore from Orange County, California. She was unable to attend the focus group session but was excited to participate in the individual interview over the phone. She participated in Cane Quest seven times as a B1 competitor. Although the prizes were initially a motivator for her to participate in Cane Quest, she stated that she found meeting new people was a big encouragement. Her skills checklist total

score was 98, the same as two other participants in the study. When compared to the other two Trailblazers, Kate was ranked second. Her highest scoring skill was a perfect score of 4 for crossing a business driveway, and her lowest score was vehicle detection. She described herself as a confident traveler and knew what areas she needed to improve.

### **Description of Orientation and Mobility Specialists**

#### **Haley**

Haley participated in both the individual interviews as well as the focus group session. She was a kind person who was knowledgeable about the orientation and mobility field in Los Angeles County, California. She believed that although youth with visual impairments have a lot to learn, relaxation is also essential. She had been an orientation and mobility instructor for almost nine years. Her current caseload size was 13 students. Haley had participated in Cane Quest about three times. She enjoyed Cane Quest because it was a fun and lighthearted competition.

#### **Joy**

Joy was an orientation and mobility specialist from San Bernardino County, California. She had been a specialist for 8 years and had 21 students on her caseload. She enjoyed participating in Cane Quest and only missed the first one since its inception. She viewed Cane Quest as a positive encouragement and motivation for youth with visual impairments.

#### **Andrea**

Andrea was the participant who travelled furthest to Cane Quest, traveling from San Diego County, California. Andrea participated in both the individual interview and the focus group session. In the focus group session, her input on services for students in a smaller city was

valuable. She had been an orientation and mobility instructor for about 20 years, with a caseload of 16 students. Over the years, she had participated at Cane Quest about seven times. Overall, she saw Cane Quest as a way for students to practice the skills that they had learned in school. She enjoys seeing how youth progress through the years.

### **Alison**

Alison was also able to attend both the individual interview and focus group sessions. She provided services to students in a rural area in San Bernardino County, California. In her area, resources are scarce, and she struggled to meet the needs of her students. Her knowledge and experience over her 24 years as an orientation and mobility instructor provided a wealth of information to the focus group. When compared to the participants in this study, she had the second-largest caseload size of about 32 students. She had participated in Cane Quest twice before and enjoyed seeing the kids having a great time. Although she encouraged her students to attend every year, none of her students have participated.

### **Monica**

The Cane Quest 2018 competition was Monica's second year she attended. She is also in her second year as an orientation and mobility instructor. Monica worked with students in Riverside County, California, and had the largest caseload size of all the participants with 38 students. She thought Cane Quest was well organized and well planned. She said that the students had a lot of fun, and the parents were proud.

### **Brian**

Brian began his career as an orientation and mobility specialist 22 years ago. He worked with a caseload of 14 students in Los Angeles County, California. He had volunteered as an

orientation and mobility specialist for every Cane Quest since its inception. At Cane Quest, he enjoyed seeing the other orientation and mobility specialists and learning their perspectives on the various skills that are judged. He also liked how each skill was broken down into different parts. He stated that by bringing the youth together at Cane Quest they felt they were part of a community.

### **Shirley**

Of all the participants in this study, Shirley had the smallest caseload size of 12. She had been an orientation and mobility instructor for 14 years and worked with students from Los Angeles County, California. Shirley volunteered for Cane Quest about five times. Overall, she thought Cane Quest was fabulous and loved that the youth had this opportunity.

### **Stewart**

Stewart was an orientation and mobility instructor who worked in the rural parts of Los Angeles County, California. He had been an orientation and mobility specialist for 20 years with a caseload of 22 students. Stewart described his itinerant teaching area as very spread out. He had attended Cane Quest many times and enjoyed it. He believed that Cane Quest was very beneficial for everybody involved. Like Brian, Stewart also enjoyed seeing how other orientation and mobility specialists and learning how they assess skills.

### **Grace**

Grace was from the smallest city when compared to the other participants in the study. She provides services in Santa Barbara, California, which has a population of approximately 446,527 people (U.S. Census Bureau, 2019). She was able to participate in both the individual interviews as well as the focus group session. Grace had been an orientation and mobility

specialist for approximately 10 years with a caseload size of 22 students. At Cane Quest, she shared that both the youth and the adults got a lot out of it. She thought Cane Quest was a lot of fun and had attended almost every year, only missing two.

### **Amber**

Amber was another newer orientation and mobility specialist. She had been certified as a specialist and working in Los Angeles County, California for a little over a year with a caseload size of 20 students. When she first volunteered for Cane Quest, she was not certified. Cane Quest 2018 was her first year as a certified orientation and mobility instructor. She thought Cane Quest was an excellent opportunity for the youth to show off their skills and see how much progress they had made in a year.

## **Category 1: Capacity in Life**

### **Theme One: The Role of the Orientation and Mobility Specialist**

The first theme identified to be associated with the attainment of capacity in self-determination in daily life is the role of the orientation and mobility specialist. The role of the orientation and mobility specialist is to teach youth with visual impairments how to navigate their world safely. Independent travel for youth with visual impairments often includes the use of a long cane; thus, they also require training by an orientation and mobility specialist to do so safely. Many of the orientation and mobility specialists in this study viewed their role as more than just teaching a set of skills, but a broader definition of teaching youth with visual impairments how to be independent.

Grace shared her perspective on her role as an orientation and mobility specialist:

Just even when you're starting from how do you find your classroom from the front of school...you're teaching them how to get there by themselves and how to find their way...how to turn right, and left, and all those things. All of those things build up towards independence and self-determination. I think absolutely everything you teach, um, promotes that.

Joy, an orientation and mobility specialist, described orientation and mobility from her perspective:

Orientation and mobility focuses on helping students with visual impairments to any degree. Help them travel independently in their community. Help them become oriented, confident, and comfortable when walking, whether it is on campus or in their home area, in a variety of settings. That could be just going to classes or even crossing streets. Independent travel which is just walking down the block or taking the bus to a pertinent destination. . . . We are always striving to get them to reach new levels of independence in different areas.

This view on increasing independence was also shared by other orientation and mobility specialists. Alison believed her role as an orientation and mobility specialist was to “get them independent, or as much as you can.” Monica commented on the importance of getting her students as independent as possible:

I think as the O&M instructors, that's, that's one of our main goals, to promote independence and guide them to a place where they're able to do things by themselves. So, when they're adults, they don't really have to depend on anyone else.

Haley, an orientation and mobility specialist, posited that helping her students become self-determined was her primary goal as an instructor:

That is probably my number one thing I do with my students is helping them find their voice in many, many ways. I actually think it's our job. I think that's the main focus. I get all the limitations everybody's talked about...but I do feel like that is our job is to support them to become self-determined as much as possible.

This theme was found only in the orientation and mobility specialist participants. Feeling responsible for their student's development of independence and self-determination was a common theme among all the orientation and mobility specialists.

### **Theme Two: Knowledge Attainment**

Knowledge attainment was a second theme found when exploring the development of capacity in self-determination in youth with visual impairments. Orientation and mobility lessons were commonly described by all the participants as a way youth with visual impairments gain knowledge in areas associated with self-determination. There are many skills youth with visual impairments learn through orientation and mobility training that could increase self-determination, such as problem-solving, goal setting, and choice making (Wehmeyer, 1999). The orientation and mobility specialists in this study described how they taught and helped their students learn these skills in school.

Haley described how her students learned to become self-determined during an orientation and mobility lesson:

Well, one of the things I have found in my own students that help them the most with their own self-determination is calling Metro for bus directions. Because at first, they don't have a voice at all. And then when the Metro bus driver or I mean, operator, uh, says to repeat it, you know, they can't hear you three or four times, and then they have to speak up. That's a huge way that my students have begun to learn their own voice and

how to use it. . . . I never thought, you know, finding your voice would happen through calling Metro bus lessons.

Joy, an orientation and mobility specialist, gave an example of how she teaches problem-solving skills to her students:

I have this one student, and her goal is to be able to independently take public transportation to her school. We have discussed concerns such as ‘well, what if there’s construction?’ Or, especially where she lives there tends to be flooding with the rain, so ‘what if you need to take an alternate route? How are you going to problem-solve and be able to take another route?’ So, she’s learned a variety of ways, whether it’s through the phone, her apps, or the computer. She is feeling more comfortable with problem-solving and finding alternative routes to the same destination.

Orientation and mobility specialists also described how they taught their student self-determination skills that were necessary for obtaining jobs. Brian, an orientation and mobility specialist, described how he taught skills that lead to self-determination outside of school:

I have a student who is, he's a senior in high school, and he's got his first job. And his parents were very hesitant to let him take the bus to his worksite. But we worked on it this whole school year, and we've repeated it. And he's been able to show them he knows how to do it. And now he's actually going on Saturdays by himself for work.

Grace also described how she taught her orientation and mobility students to become more independent outside of school as well:

One of them we're working on her doing a little, like little errands in the community so she can learn the store and then learn how to know where things are in the store. Another student, we're working on him, because he walks to school, he does walk to school by



himself. But he still needs a little assistance being safe crossing [the street]. And the other student, she wants to learn how to take the bus so that she can get places by herself.

All the orientation and mobility specialists described the many ways their students gain knowledge attainment in the skills associated with self-determination through orientation and mobility lessons. To further explore knowledge attainment in self-determination, the six youth participants were asked to describe how often they received orientation and mobility training. Two youth participants, Simon and Kate, received the greatest amount of orientation and mobility services with lessons two times per week. Three of the youth participants, Mark, Hannah, and Chloe, received orientation and mobility lessons once per week. Kimberly only received orientation and mobility lessons once every two weeks.

Although all the youth participants had orientation and mobility specialists, Simon described learning many skills from his aide at school, such as getting around the school campus. He explained, “She is the one who teaches me to, how to navigate to my classes at the beginning of the school year.” However, when discussing his orientation and mobility skills learned off-campus, he attributed these skills to his orientation and mobility specialist:

My mobility teacher taught me how to cross a residential intersection. . . . Or how to know when to press the button. I’ve learned about actuated and semi-actuated intersections, how those work, and T shape, plus shape, all that. I learn a lot from my mobility instructor.

Kimberly, like many of the youth participants, described how she used Cane Quest as a motivator to increase her skills. She explained, “If I make a mistake in one of the competitions, I’ll take that into account, and I’ll work on getting that fixed.” To build skills, she likes to practice with her mobility teacher and her parents.

Kate also built her skills after each Cane Quest to prepare herself for the next. She described working with her orientation and mobility instructor to learn new skills, “and then for the question of the three parts of the cane, I did ask my teacher afterward what the third part was. I did not know so that I knew it for the next Cane Quest.” Kate explained how her orientation and mobility instructor utilized the skills checklist to ensure that she learned all the skills needed for the competition. “We definitely worked on the skillset techniques that they sent us cause they send like cane techniques that you need to learn and to know. And we definitely did that.” The skills checklist became a motivation for her to learn the skills and practice.

When exploring knowledge attainment, the youth described various times they were able to receive instruction from their orientation and mobility specialists. Knowledge attainment and motivation to learn self-determination skills were also found to be provided by other people in the youths’ lives. Some of the youth participants also described using Cane Quest as a motivator to gain skills in self-determination in their daily lives.

### **Theme Three: Barriers to Capacity**

Another major theme found were the various barriers that prevented youth with visual impairments from gaining capacity in skill areas associated with self-determination. The youth participants did not mention any barriers they had in gaining capacity, but the orientation and mobility specialists did. Two types of barriers were mentioned by almost every orientation and mobility specialist: liability and time. The first, liability, was mentioned by the participants as the school’s preventing capacity through concerns with liability.

Monica, an orientation and mobility specialist, described how the school districts limited her students’ ability to gain capacity in skills associated with self-determination:

I think sometimes school districts or schools, sometimes administration, they're scared of what might happen to the student if you allow them to do certain things independently and they might not be willing to allow that student. Or sometimes even parents. Or students themselves. Sometimes they feel like they're too scared to do something. . . . I think sometimes that holds students back.

Alison explained how liability played a role in what she was able to teach her student during orientation and mobility lessons:

We couldn't even take the kids off campus. Everything had to be just on campus, and that's it. So, I mean that's limiting right there, you know. The kids already knew the campus, or they knew right in front of the school. That you know, we couldn't step off any further. And so that limited us for a couple years and then. . . . I'm limited by what I can write [IEP goals]. My Principals will not allow me and various school districts will not allow me to put down 'look into public transportation' because they're just like 'No, we don't do that. It's a liability.'

Another orientation and mobility specialist, Amber, was also restricted to what she could teach:

I have talked with some students who expressed like, 'Oh, I would like to go to this specific place on a route' because they're interested in knowing how to get there on their own. And that is like shut down really quick because, um, the people who are in charge of it ultimately are like, 'No, I don't want them to really like expand in that area or go to that city.' Or whatever the case may be.

Not all the barriers were from school officials. Shirley described how some parents limit what can be taught in orientation and mobility lessons:

I do have one family who won't let me take the student off campus. So, you know, the goal is, it's okay. I have to say; I'm not, like, feeling as though I'm really giving her the best instruction that I could.

Limitations in time with students was also found to be a barrier to capacity. Orientation and mobility specialists described their experiences with limitations in the amount of time they were able to work with a student as well as limitations in the time needed to teach skills, such as problem-solving. These limitations created barriers to learning skills related to self-determination.

Alison stated that other providers do not respect the time she needed with her orientation and mobility students:

We are so restricted with the school day. . . . I'm like kind of like the last provider, you know. When I get there, they're like 'Oh sorry vision is coming, this is coming, this is coming, you can only take them at this little time slot, and that's it.' And like I said, I can't work before, I can't work after school, and then usually my kids are swamped with work, so they're like 'can we, you know, cut it short?' or 'can we, do we need to meet today?'

Shirley shared that the school schedule dictates how long she is able to work with her students, "I might have like an hour with the student and other times I might have, you know, 45 minutes or less depending on what I'm taking them out of." Because of limited time to spend with students, the orientation and mobility specialists shared that this was a barrier in what they were able to teach their students. "Sometimes the lessons are not long enough to do the full route or the full entire scope of getting from one place to the next. So, I think that just the limited amount of time

that I have with them sometimes would interfere with that” states Amber. Grace also said that her students are lacking in knowledge because they are restricted on time:

You only have so much time to work with them, and then they have to be in class because they can't miss out on education. . . . And then you only have a 30 or 45-minute lesson. Then you can't do very much in that time. That's what's hard. So, then they really don't get those, you know, how to be independent and community experiences.

Monica, an orientation and mobility specialist, stated that time had a direct impact on her student's ability to learn and practice self-determination skills. She said that she is limited on the “time to allow them to problem-solve because then the lesson will go an extra hour, which I can't, I can't really do at this point.”

Fear by school districts and parents were found to be a barrier to youth gaining knowledge in skills associated with self-determination. Capacity was also further limited based on time restraints stated by the orientation and mobility specialists. These time restraints were places on these instructors by other teachers, school schedules, and the time demands needed to teach an orientation and mobility lesson.

## **Category 2: Opportunities in Life**

### **Theme One: Opportunities in Autonomy**

Autonomy is one of the four areas in Wehmeyer's (1999) Functional Theory of Self-determination. This area was explored to identify if youth with visual impairments are gaining autonomy opportunities in their daily life. Autonomous behavior occurs when a “person acts 1) according to his or her own preference, interests, and/or abilities and 2) independently, free from undue external influence or interference” (Wehmeyer, 1996b p.25). The orientation and mobility specialists were asked how they felt about youth with visual impairments having opportunities in

independence, where youth practice acting according to their own preferences. All the orientation and mobility specialists said that it was “super,” “very,” and “highly” important. Stewart described autonomy as a great need and extremely important. He further elaborated, “I think it’s important for our kids to realize that they can get somewhere by themselves and feel confident doing that.” The orientation and mobility specialists expressed their thoughts on opportunities in autonomy.

Brian reflected on the challenge of teaching his student to be autonomous when they don’t have opportunities to be independent outside of orientation and mobility lessons:

We teach these things sort of out of context a lot of times. You know, here we’re going to practice this again and again and again. But if they don’t have opportunities to actually do these things independently, then it can, you know, it’s not retained, it’s not reinforced, and they don’t seem to see the purpose of it all.

Haley, an orientation and mobility instructor, described opportunities her students can practice autonomy in her lessons:

Even my elementary kids, I would give them a choice. I’ll say we can do this, or we can do that, or we can do this. You make the choice. And just them being able to have a choice is the beginning of that process.

The orientation and mobility specialists shared that learning to be independent and autonomous was important. For Andrea’s students, they get “a lot of pride in being able to get from point A to point B”. She also said that independent opportunities have a benefit on orientation and mobility skills, “the more a student can practice their skills within a regular routine, the better they are on mobility lessons.”

Many of the orientation and mobility specialists shared how their students practice autonomy in school or at home. They described ways their lessons increased autonomous behaviors to increase the level of independence in their students.

Alison, an orientation and mobility instructor, shared an example of how her students gain opportunities in autonomy in their daily lives:

My other one [student] that has a one-on-one [an aide]. . . . I told her, who's your friend or who do you want to hang out with? And she mentioned some little girl. I said, 'you know what, every day you say, 'can I please have, you know, so and so, can I go with her to lunch?' And so now they've partnered up, and she goes with her, and they go sighted guide or sometimes she'll use her cane.

Haley described how building autonomy impacts her orientation and mobility students:

Honestly, there has been such great ripple in the pond effect from that . . . because one thing they do learn to speak up then, you know, like one of my [students], she was really, really soft-spoken and shy. And she got really tired of having to repeat herself. And after she really found her moxie and started speaking up there, and next thing I know she is speaking up with her teacher, she's speaking up with her friends.

The orientation and mobility specialists shared the view that autonomy opportunities are important for youth with visual impairments. They also identified that youth are gaining opportunities in autonomy in school through orientation and mobility lessons. Youth participants were also asked about their perceptions and experiences in autonomy. The youth participants were asked about things they do independently in their daily life to explore opportunities in autonomy. They were all eager to share the things they could do at home, and the youth all stated they felt that they were very independent. Simon, a youth participant, said that he felt very

independent at school and walks to all his classes on his own. When he runs into trouble, he knows how to get help, but stated, “for the most part I can walk to my classes and snack and lunch and stuff like that.” When discussing his independence, Simon states he is confident getting around because his home is small, so he does not use a cane in the house. Although Mark had an assistant at school, he explained that he gets to all his classes on his own. He strived to do things on his own “I’m, going to try harder this year, hopefully, to work on more independent skills without having to rely on someone.” Kimberly shared that she felt “pretty advanced for her age.” At home, she dresses herself and sometimes makes a snack without assistance. Hannah said she feels independent at home and liked to cook. At school, she feared messing up, but stated, “I might mess up and go a different way and not make it, but I’m kind of getting used to it now.” Just like Kimberly, Chloe also liked to make her meals, and she also did her laundry. She talked about wanting to learn how to do more chores, so she does not have to rely on her parents as much. Kate was also very independent at home and at school. She stated that her biggest struggle at home was doing the dishes. All the youth described the various things they did independently. Although many of these daily experiences were not examples free from external forces, such as chores, these were skills needed for these youth to live independently on their own and act according to their preferences.

## **Theme Two: Opportunities in Self-regulation**

Self-regulation is the second area explored for opportunities in self-determination. For a person to act in a self-regulated manner, “individuals should make decisions as to what skills to use in which situation, examine the task at hand and their strategic repertoire, and formulate, enact and evaluate a plan of action, with revisions if necessary” (Wehmeyer, 1992b, p. 304). For this study, all participants were asked about the experiences youth with visual impairments have



in problem-solving and goal setting to explore this area of self-determination. The orientation and mobility specialists stated that problem-solving and goal setting skills were critical, but many said that youth with visual impairments lacked these skills.

Haley gave the following example for how she provides opportunities for self-regulation through problem-solving to her students during orientation and mobility lessons:

I'll give them, for example, I'll give them an address. And their goal is to find the destination either utilizing, not either, utilizing the address, landmarks, cardinal directions. And they have to, so their, their goal is to utilize those skills, and they have to problem-solve. . . . They have to make a route themselves and find it through those means.

Monica, an orientation and mobility specialist, described how orientation and mobility skills provide a unique opportunity for students with visual impairments to develop self-regulation:

So sometimes we go to different streets and figuring out that not each intersection is the same. And analyzing the intersection and determining whether it's safe to cross or not and the reason behind them analyzing the intersection. The whole reason behind that is to determine whether it's safe to cross or not and when they start crossing streets independently, they need to be able to determine that themselves.

Learning self-regulation is not the same for every student. Joy described how she had to breakdown problem-solving opportunities for her student into smaller steps to encourage self-regulation:

I have a student now who has a difficult time with problem-solving. One of the things that we worked on is just breaking down, step by step. He is in high school and has a difficult time with, going to the bank and finding out how to open a checking account or

savings account, or how to receive assistance at the ATM. Providing suggestive questioning and other cues to be able to lead him to asking those questions for himself. Some of the orientation and mobility specialists shared how their students need guidance and opportunities in self-regulation skills to learn how to set realistic attainable goals. Brian shared that when setting goals to become more self-regulated, some of his students are unrealistic:

It seems like their goals might be a little unrealistic. So, you're going to be, you know, pop singers or I have one that wants to be a pediatrician and maybe not realizing what, what that entails to, to really get to those places where they think they're going.

When students do not experience opportunities to develop self-regulation skills in school, this can impact their ability to use these skills after high school. Stewart described a situation where inexperience in self-regulation led to his student's struggle in college:

She went over to the junior college here. Then she couldn't succeed because she couldn't work out all the little details that she had to do with, you know, she had to go here and pick this up for the teacher to ask her to, or the professor, and ask her to go do this or can go do that. . . . And she just had no experience in doing all that stuff and so she, she finally didn't make it over at the college just because I think she had not had enough experience problem-solving, solving the little problems that come up every day in life.

The orientation and mobility specialists identified that opportunities in self-regulation skills are needed. To help their students develop self-regulation skills, these orientation and mobility specialists are finding ways to provide opportunities during orientation and mobility lessons. To explore youths' perceptions and experiences of self-regulation, the youth participants were asked to described opportunities where they were able to problem-solve and set goals in their daily

lives. All the youth participants described doing chores at home and orientation and mobility lessons as examples of using problem-solving skills.

Mark shared how he used self-regulation skills to keep organized:

I'd always make choices by putting my clothes away. . . . Because, if I don't put my clothes in the right place, I'd forget and I'd be like, oh, I forgot to do that. So, I always remember to put them in the right place.

Simon described how he had to use strategic planning to travel independently:

If I'm faced with a street that I've never been taught before, I'm like 'okay, I'm going to use this skill, and I know I'm going to analyze the intersection. I'm gonna identify if it's a plus shape, T shape. I'm going to go from corner to corner, find if I have to press any buttons. It's actuated, semi-actuated.' I have to run all these things through my head . . . it's kind of a system.

The youth participants stated they were able to problem-solve when learning something new or completing everyday tasks. The examples provided by the youth participants included opportunities through learning or completing household chores or during their orientation and mobility lessons.

### **Theme Three: Opportunities in Psychological Empowerment**

The third area of self-determination that was explored is psychological empowerment. The following definition by Wehmeyer (1996b) was used to explore psychological empowerment:

Essentially, people acting in a psychologically empowered manner do so on the basis of a belief that 1) they have control over circumstances that are important to them (internal locus of control); 2) they possess the requisite skills to achieve desired outcomes (self-

efficacy); and 3) if they choose to apply those skills, the identified outcomes will result (outcome expectation). (p. 26)

To explore this area of self-determination the orientation and mobility specialists were asked to describe their student's experience with choice and creative decision making to explore areas of psychological empowerment. These questions were aimed to identify if the youth were making choices on their own, going through a decision making process, and identifying prospective outcomes. The orientation and mobility specialists stated that choice and creative decision making are essential and very important. Despite this importance, the orientation and mobility specialists described how many youths with visual impairments did not get those opportunities.

Haley, an orientation and mobility specialist, described her student's opportunity to practice psychological empowerment through the ability to make choices:

One of my students is low vision. . . . She's going to work part-time after school. . . . She had to choose what kind of job she wanted . . . and get creative about how to find it and what route would be the best to get her there. And she had to figure it out, timewise, for the bus and that kind of thing. So, there's a whole system that she had to utilize of making choices and being creative to do it.

Stewart stated the importance of teaching psychological empowerment to youth with visual impairments:

You have to make the decisions from a long-term point of view that will enable you to become more independent, or you get a job, or to take care of yourself, you know, and a blind person has to think about . . . if you're blind and you someday, you know, someday you need to be able to take care of yourself. So, you know, you need to make plans. How are you going to manage yourself? How are you going to learn the skills that you need to

take care of yourself? Are you going to be able to figure out some financial plan that you can take care of yourself? So, you know, decision making is really crucial.

When youth participants were asked about their opportunities in making choices and creative decisions, many struggled to identify when they were able to make such choices. “I don’t really make choices,” said Simon. Another youth participant, Kate, also said she was limited in her choices “I feel like the teachers kind of make choices for you a little bit, but you definitely have that option of, you definitely can put in some effort for a grade you want.” Because they are limited in opportunities to make choices, some participants stated they struggled when having to make a choice. Mark shared his experience with choice making:

I’m going to feel a little tense and stressed out a little, but once I get the pattern of making decisions down, I’ll figure things out now, and I’ll realize that I can do it more and I just have to get used to things because when it’s my first time doing stuff, I just get, you know, anxious, and stressed, and nervous.

Although some of the youth participants said they expressed unease about making choices, Chloe stated she felt confident in choice making as long as they were not big decisions. She said, “I think I make pretty good choices. . . . I know, like, what the results are so if I, like, choose something, and like, they’re not that big, like as big of a decision, so like I’m pretty confident with making choices.” This area of self-determination was different among all the youth participants. Some stated they had no opportunities to experience psychological empowerment, whereas others did and felt confident doing so. Many of the orientation and mobility specialists also struggled to identify ways their students were able to experience opportunities in psychological empowerment as well.

#### **Theme Four: Opportunities in Self-realization**

Self-realization is the final of the four areas of self-determination as determined by Wehmeyer's Functional Theory of Self-determination (1999). To explore self-realization opportunities for youth with visual impairments, participants were asked questions about facing new challenges and understanding their (youth with visual impairments) own abilities. This included their thoughts, feelings, and opportunities for youth in facing new challenges in their daily lives. The following definition by Wehmeyer (1996b) was used to define self-realization as "a comprehensive, and reasonably accurate, knowledge of themselves and their strengths and limitations to act in such a manner as to capitalize on this knowledge" (p.26).

All orientation and mobility specialists stated it is essential and "absolutely crucial" for youth with visual impairments to face new challenges and understand their own abilities. They also said that youth with visual impairments lacked in this area. "I feel that it's super vital to a student's growth and expansion of themselves," stated Joy.

Andrea, an orientation and mobility specialist, described why self-realization is vital for youth with visual impairments:

The more that a student can do, the more that they can see that they can do, but they don't have the skills yet. . . . Gets them to think, 'I need to do,' you know, 'I need to do this because I want to do that.' . . . And I need to figure out how I can do that whether that be, go to another intersection, whether that be to seek assistance. . . . I think, is really important as far as students having agency and, on their own, and knowing their own skills.

To practice self-realization, students have to go outside their comfort zone and try new things on their own. Grace shared a story about a student using her skills to face a new challenge:

I had a student . . . she took the train down to, now granted she wasn't all by herself, she was with a friend, but she took a . . . there were no parents. So, she took the train down to San Diego with her friend, and that was, you know, that was pretty new for her. She was pretty excited about that, and that was good for her.

The orientation and mobility specialists described self-realization as not just important for youth with visual impairments to understand themselves, but as a way to connect with others.

Orientation and mobility specialist, Monica, described this view:

I think it's a support for them to be able to understand themselves and value themselves and be able to communicate with other people about themselves and their visual impairment and, so that they're, you know so that they're able to connect with other people.

To explore self-realization from the youths' perspective, they were asked to describe an experience when they faced a new challenge. Many of them named simple tasks around the house or at school. Simon, a youth participant, mentioned that he learned how to use the washing machine and a route to a new class. Although learning a chore may seem simple, many of the participants sounded excited to share they were doing chores on their own. Mark shared that he does not mind facing new challenges. He stated he recently started taking voice lessons, which was a challenge for him. When asked about facing new challenges, Kimberly said she does not have many challenges but tried learning new chores. Hannah said she was scared to face new challenges because she fears "messing up." Chloe shared how she challenges herself "I'll learn to do things like cooking. . . . I'll try to, like, do the laundry sometimes. . . . And it was a little hard for me, but I think that I'm getting better at it." She also stated she does not like facing new challenges at school and that it makes her uncomfortable. Similar to the other participants, Kate

also finds cooking and basic household chores a challenge. She initially feared getting burned when cooking but said, “I feel like it just happens, and you have to be brave with it and just kind of trust yourself to do it.” These youth described various ways they gained opportunities to face new challenges in their daily lives. As with the previous areas explored in self-determination, these opportunities are focused on basic life skills at home and in school.

### **Theme Five: Opportunities in External Programs**

In the exploration of opportunities to practice and experience self-determination skills, external programs were mentioned by both orientation and mobility specialists and youth participants. Youth with visual impairments are experiencing opportunities in self-determination through external programs outside of their school and home environments. Programs, camps, and workshops are other ways youth with visual impairments can practice and experience self-determination. When exploring self-determination in a youth’s daily life, it is necessary to explore these external programs that contribute to self-determination opportunities.

The orientation and mobility specialists describe many different programs they have encountered that helped their students in building self-determination. The most common external programs mentioned were through nonprofits that provide programs and camps specifically for youth with visual impairments. These various nonprofits could have a central location that youth would attend for various semi-weekly programs, weekend programs, events, and overnight camps. The orientation and mobility specialists stated they loved these camps because they were free of charge to participants and offered their students opportunities outside of their daily lives. The youth participants also shared how positive they felt about these external programs. These programs are not just fun activities for socializing, but a place where youth are taught real-life skills. “They help them with resumes and interviewing, and then working,” said Haley, an



orientation and mobility specialist, about one of the nonprofit programs. Although these nonprofit programs are beneficial, there are limitations to being able to attend. Orientation and mobility specialists stated the main reasons parents were not able to take their youth to these programs are because of the location or financial restraints. Many families are too far from these programs, and they do not have something similar in their geographic area. Since many programs are several hours long, this may require a parent to take a day off from work which was described as causing financial problems.

By identifying a need for these youth to learn and practice independence, many of the orientation and mobility specialists have created their own programs with their students along with other orientation and mobility specialists. One program was described as a one-week program during the summer, where the youth practice a new skill each day. Orientation and mobility specialist, Haley, shared her knowledge and participation in this program:

We split'em up all in different groups and then one group is doing bus lessons all day.

And then they come back, and we all eat lunch together. One group cooks lunch and goes shopping to find the food; they prepare it. And the other group is doing, you know, like mall travel, rural travel and then the other group is doing [learning how to use the] train. .

. . And it's so we can do these kinds of experiences that they can't get within the school.

The orientation and mobility specialists identified the need for youth with visual impairments to gain additional opportunities in self-determination skill areas. To help meet this need, the orientation and mobility specialists describe encouraging their students to attend external programs. Many of the orientation and mobility specialists also created their own external programs to meet this need.

## **Theme Six: Barriers to Opportunities**

Although youth are experiencing opportunities to become self-determined individuals, many barriers limit these opportunities. Barriers to opportunities is an additional theme found when exploring opportunities for self-determination in youth with visual impairments. The youth did not mention any barriers, but the orientation and mobility specialists were very vocal about barriers. Three main barriers were mentioned consistently across all participants: school policy and liability fears, over helpful adults, and parents. In schools, the orientation and mobility specialists described how youth with visual impairments were limited in opportunities based on administrators' fear of liability. "Sometimes a lot of times they are being limited too much. I have to go into that because you know maybe some adults are just not feeling like they are able to rise up to the challenge and want to protect them," said Joy. Orientation and mobility specialists also stated that it is easier for some teachers to do things for their students instead of letting them figure it out on their own.

Stewart described how other teachers are going too much for his students, so they are lacking in the opportunities to practice and experience skills in self-determination:

The teachers want to do too much for them all the time and don't give them the experience of figuring things out on their own and getting to their classes on their own or getting around school on their own.

Some students are relying too much on help and become passive. Orientation and mobility specialist, Andrea, shares her perspective on this problem:

I think it's easy just to kind of go and do for a student and not involve them in making decisions about goals. I think sometimes students are too passive and especially they need

more experience making decisions for themselves. . . . It's really easy just to, you know, put a kid near the door.

The orientation and mobility specialists in this study also shared that parents were sometimes barriers to their child's opportunities for self-determination. Haley stated problems arose when her orientation and mobility student's lacked opportunities at home:

I have students graduated that were completely blind and did not know to eat soup. To put a soup spoon up to her mouth. And what I found out is that, if she came to school with sandwiches she was fine, but she was fed still at home. . . . I just found out one of my . . . a seven-year-old, that her father still carries her across the street and won't let her, yea, won't let her step down the curb on her own.

Orientation and mobility specialist, Joy, had a similar issue with her students:

A lot of these students come to me, and they tell me, 'Miss I can't practice my mobility skills at home because my mom and dad are too afraid to let me walk around.' It's that missed opportunity. The lack of being able to practice their orientation and mobility skills outside of school.

Some parents create barriers at home by not allowing their children to practice skills in independence. Alison shared her struggle with a parent to increase opportunities at home:

And he's like 'well, we don't use our cane'. . . . He carried her everywhere or now all he does is they link arms, and they go everywhere together. . . . And I'm like, 'but you're limiting her and her ability to become an independent traveler.' And he's like 'oh she'll learn that later.'

Shirley, an orientation and mobility specialist, also voiced this same issue with parents wanting to work on independence later in their child's life:

The families are so protective that they, you know like I'll say, 'Well, this is a really good opportunity for them to try this or that.' And they're like, 'yeah but, you know, we're never going to do this. We'll let them get it in their toolbox and then if an opportunity arises where they can use it, then you know, they'll have the skills that they need.'

Many of the orientation and mobility specialists described the need for parent involvement to increase opportunities in the youths' daily lives. Parents can be a barrier to opportunities in self-determination, but an advocate. Many of the parents struggle with the fear and concerns of their child. Orientation and mobility specialist, Andrea, recognized the concerns of the parents and the need for their involvement, "Especially with concerns of parents and that kind of thing. So, it really has to be worked out with parents, and where parents feel that they're ready to let their child go."

There are many barriers that impact opportunities in self-determination for youth with visual impairments. These barriers are recognized by the orientation and mobility specialists that service this population. The orientation and mobility specialists also shared the efforts they are doing to minimize these barriers that occur in the youths' daily lives.

### **Category 3: Support in Life**

In the Functional Theory of Self-determination, support is one of the three main contributors to becoming more self-determined (Wehmeyer, 1999). For this study, it was essential to explore what types of supports youth with visual impairment receive. Through the data collected, three themes emerged: aides and paraeducator support, beneficial support, and non-beneficial support.

## **Theme One: Aides and Paraeducator Support**

Every orientation and mobility specialist in the study stated that all their students have support in school. The type of support varied with each participant. When the orientation and mobility specialists were asked if their students have aides or a paraeducator with them, five said that their students with multiple disabilities had support with them at school.

Andrea, an orientation and mobility specialist, described how support differed based on the school:

One of my non-vision students has an aide with her 24/7. However, I've got three other students without vision who independently get from class to class on a large campus . . . just like their sighted peers.

Orientation and mobility specialist, Shirley, described her school's unique partnering system:

At the elementary school level, everyone regardless of whether or not they have visual impairment works on a buddy system. So, they never go anywhere on the campus without somebody.

The remaining three orientation and mobility specialists stated that not all of their students had aides in school, but some did. These findings were very different compared to the youth participants. Youth participants, Simon and Mark, both said that they had an aide with them the entire time they were in school.

Simon described his support in school:

I have an aide that sticks with me through the whole day . . . she does help me if I ask for it, but like she knows I can do it on my own, but she still sticks with me. Like she will still always be there if I need help.

The other youth participants had limited support in school. Kimberly explained that her school supplied an aide for her class, but the aide worked with all the students in the class. At Chloe's school, they had a similar set up where there were aides who assisted all the students with visual impairments. Kate had an aide who assisted her in biology class. Hannah stated that she did not have an aide or support at school. Although aide and paraeducator support differ per school and per student, this exploration gives insight into the types of support these students are receiving.

### **Theme Two: Beneficial Support**

The orientation and mobility specialists described various types of supports their students receive in their daily lives. Many described what they felt was beneficial support as well as stories of support their students received.

Orientation and mobility specialist, Andrea, described an example of beneficial support her student received through support at home:

I've had a student who, for example, helped redo the floor with his dad. And you know was really involved in that end in the household and I think what happens is that people in and assume that a child can't, or young adults can't do.

Haley, an orientation and mobility specialist, described how her students benefit from support at home:

The parents that I feel will allow their students to practice at home, I feel, are more successful and also feel more independent than those kids who don't get that experience at home.

Beneficial support can be different based on the youth themselves. Shirley described how some of her students differ in what they feel is beneficial support:

Some of my students, they appreciate the assistance and in fact kind of relish it. He's like, 'oh no, just guide me wherever you have to go.' And other students feel like they were kind of maneuvered and they didn't want to be. So, then we go over how you say, 'thank you, but I'll do this on my own' and those kinds of things.

Beneficial support can be a benefit for some students. Grace, and orientation and mobility specialist, explained how support leads to more opportunities:

I had a student in the jewelry making class and the teacher was having a heart attack because, you know, there was machinery involved. And I'm going 'There's gonna be an aide. He will be safe.' But those, you know, there's fears I think sometimes.

Beneficial support can also be found in the education team at school. Amber described the beneficial support system her students have:

The aides are really good at communicating. And also communicating to me the fears of teachers and things like that of letting students go, and so, as a team, as part of a team, we all kind of came up with; the students wrote letters on how they wanted to be helped, and we presented it to the principal of this school.

The youth participants all mentioned they get some beneficial help in their daily lives. Some of them liked the help and utilized the assistance, whereas others declined the help. Youth participant, Simon, explained how he decides when he gets help from others:

People are always offering me help all the time. Like, especially my friends and I, you know, I say 'No thanks. I can do this for the most part.' But, like, if I'm in a hurry, sometimes I'd be running late to class, and I know when my friends guide me, they walk faster than I do, so I just let them take me even though I know how to get there.

Both youth participants, Chloe and Kate, mentioned that they felt more comfortable if someone was around. “If someone’s with me, then I’ll feel more comfortable, but like I probably won’t try a new route like on my own” stated Chloe. Kate also had the same view, “I mean, it’s always good to have someone like behind you if you ever get lost.” Support is needed for the development of self-determination (Wehmeyer, 1999), but types of support are different based on the youth’s personal preference and ability levels. These examples provide various ways the orientation and mobility specialists and youth participants perceive beneficial support in daily life.

### **Theme Three: Learned Helplessness**

In the exploration of support, another area that emerged was the support that was not helpful or non-beneficial support. Both the orientation and mobility specialists, and the youth participants described situations where non-beneficial support occurred. The orientation and mobility specialists stated that too much support created the environment for learned helplessness in some of their students.

Monica, an orientation and mobility specialist, described non-beneficial support from one of her student’s aide:

When they have a one to one [aide], sometimes it is necessary, but I think there’s sometimes the one to one might step in a little more instead of helping, they’re hurting them. And it’s just that balance of helping them without helping them too much.

The theme of overly helpful people in school was a common theme among the orientation and mobility specialists. Brian identified that people know they are helping too much and try to hide it from the orientation and mobility specialists:



There's plenty of times at school where I know a student knows how to get around . . . but I see an assistant, you know, someone that works with them in the classroom, just guiding them, from place to place. And I always, you know, I growl at them, and they see me coming, and they let go of the student and put them over to the wall so they can trail or whatever they need to do.

Orientation and mobility specialists recognize that overhelping is negatively impacting self-determination. Andrea posited this problem:

I believe that the biggest hindrance in self-determination is, the, the community around the child with a visual impairment may be over-helping the child. . . . That teaches a child that they can't do and allowing them time to problem-solve and working through in doing with or allowing them to, I think brings a natural consequence of self-determination.

A common theme repeated by the orientation and mobility specialists is that these students are developing learned helplessness. Shirley described learned helplessness with her students:

Some of these kids just don't know how to do it, so they don't bother to make a choice because it's easier to just, you know, like waiting for somebody to tell them what to do. . . . They don't make any choices because, why not? Eventually, somebody will show up and tell me what to do.

Stewart, an orientation and mobility instructor, also observed learned helplessness with his student:

I have one boy. . . . He's grown up and with his parents doing everything for him. . . . He retreats into his shell and doesn't try anything . . . his cognitive ability is good. He could do everything. . . . He's an example of something where people have treated them like a helpless person, and he's become a helpless person.

The youth participants' thoughts were similar to the orientation and mobility specialists' thoughts on learned helplessness. Simon, a youth participant, stated that when given a choice, he would always go with the easiest choice but followed up with "but if it's like someone's there barking me around and you're telling me to do it this way. It's like, all right, I had to do it this way, but I'm not going to argue obviously." Another youth participant, Mark, reflected, "I was used to relying on people all the time helping me do things and guiding and doing all that. I still do." The youth participants recognized that other people were making choices for them. "Sometimes I make the choices, and sometimes other people make them for me," said Hannah. These experiences show that youth with visual impairments may be experiencing learned helplessness through people in their daily lives helping too much.

#### **Category 4: Cane Quest**

##### **Describing Cane Quest**

To learn more about Cane Quest, the participants were asked to talk about their overall perception of the Cane Quest competition. All the participants had an overall positive experience attending Cane Quest. Many stated that they felt the competition was well organized. The orientation and mobility specialists described how the competition provided them with a detailed list of skills for judging. Each skill set was broken down into smaller steps for each station, and each orientation and mobility specialist completed one out per participant that came through their station. For some stations, there were numerous skills for that station, whereas others had fewer. Monica, an orientation and mobility specialist, explained how this might be problematic "I do know that people said that it's too many steps to keep up within a short amount of time." The youth participants were assigned to different stations at the start of the competition so that youth were distributed across multiple stations. Orientation and mobility specialist, Shirley, explained,

“They take students to every station along the different routes. So, everybody starts at a different place and then they have to go through the entire cycle. But that way there’s not 25 kids lined up waiting for their turn.” The competition route contained stations located both on the California State University of Los Angeles campus, as well as a location off campus in a light business/residential area (see Appendix F). Each station was set up differently as orientation and mobility specialist, Haley, described, “they are testing different aspects of their cane skills, or their travel skills, or orientation skills.” The location of the Cane Quest was also seen as a positive aspect of the long cane competition. “Last year we were on a college campus, but we were also out in the community, so these kids were able to walk around a college campus as if, kind of living the college life,” said Joy, an orientation and mobility specialist. Alison, Stewart, and Grace wanted their orientation and mobility students to participate, but the distance was too far for their students to travel or transportation was an issue. As part of the competition, the youth were able to compete for prizes. Although the youth participants stated they liked the prizes, they shared that the prizes for some groups are always the same “always a Victor Reader for the Trailblazers” said youth participant, Kimberly. The youth participants said they wanted a variety of prizes, instead of the same each year. The top suggestions were an iPad or money.

### **Cane Quest Feelings**

The orientation and mobility specialists described feeling very positive about Cane Quest. Cane Quest was described as “a lighthearted competition” and “it’s brought nothing but positive encouragement and motivation.” Andrea, an orientation and mobility specialist, described the pride she felt, “I feel very proud when my students participate in things. It gives me great joy when they do things like Cane Quest.” Every orientation and mobility specialist described how the kids appeared to be having fun. Many of the orientation and mobility specialists perceived

the thrill of the competition was also appealing. “I think they like, a lot of them, like the competition,” said Shirley. Several orientation and mobility specialists also described many benefits to attending Cane Quest. One benefit was the youth participation of being at Cane Quest and using their skills. Haley, an orientation and mobility specialist, stated, “the journey of it is more important to them than the actual winning.” Orientation and mobility specialist, Grace had similar thoughts “it teaches all those things we talked about independence and problem-solving.” Another finding was that orientation and mobility specialists view Cane Quest also had social benefits. Amber shared that she felt Cane Quest was “more than the competition; it’s a social activity.” They also said that meeting with other orientation and mobility specialists was also a benefit for attending Cane Quest.

Like the orientation and mobility specialists, the youth participants also found Cane Quest to be a fun experience. The most significant theme when youth talked about their feelings of Cane Quest was nervousness. Regardless of their years participating in Cane Quest, they all described a sense of being nervous. “I was a little nervous during Cane Quest, kind of a little bit second-guessing everything that I was doing” described youth participant, Kate. For some youth participants, the nervousness was caused by the unexpected, as Mark described, “it was a little nerve-wracking because I didn’t know what to expect.” The youth participant, Hannah, stated she felt nervous and scared because this was her first time. For some youth participants, this nervousness was a positive experience. Simon, Kimberly, Chloe, and Kate all described the enjoyment in the challenge of Cane Quest. “I was comfortable with competing, and I enjoyed it,” said Chloe. Kate also expressed how she enjoyed the challenge and that she loved facing new challenges.

## **Theme One: Cane Quest Opportunities in Autonomy**

To explore opportunities that occurred in a long cane competition for youth with visual impairments, all the participants were asked questions about their experiences and perceptions of attending Cane Quest. The participants were asked questions regarding independent opportunities the youth with visual impairments experienced at Cane Quest. Eight orientation and mobility specialists and all the youth participants described experiences of youth having opportunities for autonomy at Cane Quest. One orientation and mobility specialist stated that the youth were too heavily monitored to be considered independent, and another orientation and mobility specialist said she did not know. Throughout the long cane competition, orientation and mobility specialists were able to observe the youth participants along the routes. The following are their observations from Cane Quest.

Orientation and mobility specialist, Brian, reflected on the opportunity in autonomy youth gain:

I think it's a big deal for them to go and try these things without their O&M instructor right there. So that's really the big one is to kind of let go of their familiar environment and their familiar people and try it out.

Haley described how the youth practice autonomy by completing the route on their own:

I think by going to Cane Quest is sort of like they walked into the wilderness, you know, where they don't know where they are, and they have to figure it out with the initial guidance. I mean, you know, they have initial guidance, so it's not they're just left out in the woods, you know. But they have to kind of figure it out and go from place to place.

During the Cane Quest competition, there are people along the route to support the youth participants when needed. Monica described that even though support was available; the youth must still act independently during the competition:

They don't really know everyone who's around them, their peers, or even the instructors or volunteers who are there. So, if they have a question, it helps them be more independent in that way where they have to ask someone who they're not familiar with . . . there's definitely some promotion of independence at Cane Quest. A lot, actually, a lot. All those skills that they're going through promote some type of independence.

In contrast, Shirley, and orientation and mobility instructor, posited the youth did not gain opportunities in independence at Cane Quest because of support:

I always think of independence is like, well, 'I'm going to go do this on my own.' . . . Maybe they have a little bit more opportunity as far as we know, different streets and routes that they do. But for the smaller kids, I think that they're pretty, um, not protected, but you know, certainly monitored very carefully. So, I don't see that as a really good opportunity for them to become independent.

Youth participants were also asked about their perceptions of autonomy opportunities at Cane Quest. The youth participants shared strong feelings that Cane Quest was an opportunity for them to be more independent. They all described nervousness associated with having to do the competition independently but also described that it as fun and challenging. The youth participants described volunteers on the route, but all the youth stated they did not help at all unless it was an emergency. Youth participant, Simon, said that he felt Cane Quest was a way for him to test his independence. He described how participants must do things alone at Cane Quest. This was sometimes a struggle for youth who were wanting more assistance or feedback:

So I literally stood there, and I'm like, I, I tried asking for help, and they're like, 'um, we're not allowed to help you unless' both they said, 'you know, if you make a dangerous mistake or something like that, we will correct you.'

Mark, a youth participant, reflected on how his independence was different at Cane Quest. He is accustomed to doing this on his own, but Cane Quest provided opportunities to practice independence:

I still kind of felt a little nervous about Cane Quest because I'm somewhat used to walking by myself, sometimes not. So, it's still kind of nerve-wracking to me, but as I get older and as I work on my independence, how I'll not be so nervous.

Many of the participants described opportunities for youth to experience autonomy at Cane Quest. The participants had different perceptions of these autonomous opportunities. The orientation and mobility specialists shared that by not intervening with support, the youth felt more independent. The youth stated they were not used to having limited support, so this experience was a struggle.

## **Theme Two: Cane Quest Opportunities in Self-regulation**

To further explore the four areas of self-determination in youth with visual impairments, the participants were asked questions about self-regulation opportunities that occurred at Cane Quest. The participants were asked if the youth gained opportunities in problem-solving or goal setting before or during Cane Quest. Every participant gave an example that problem-solving was practiced at Cane Quest. Three of the orientation and mobility specialists said they did not think that youth with visual impairments gain experience in goal setting at Cane Quest. All of the youth participants described ways they solved problems at Cane Quest, but only four identified a goal they had for Cane Quest. Some of the participants stated that they utilized the orientation

and mobility checklist that was part of the Cane Quest application to create goals and identify which skills to practice before attending Cane Quest. The orientation and mobility specialists described the following examples of how problem-solving and goal setting were used at Cane Quest.

Amber, an orientation and mobility specialist, reflected on how youth participants used problem-solving skills at Cane Quest:

Like trying to get on the right bus, just making sure that you're on the correct corner or the right side of the street to catch the bus. . . . Like the route travel is a lot of problem-solving. . . . And if they do take a wrong turn or gets stuck, then the problem-solving would probably come into play.

During the route at Cane Quest, the youth were challenged to use problem-solving skills.

Orientation and mobility specialist, Haley, described this experience at Cane Quest:

They're given this, you know, these directions and to these different stations. And they have to find them, and they have to do what that challenge is at the time. Or that skill. That cane skill. And so, they have to problem-solve and 'two plus two equals four, here, ok now I have to do this, now to do that to get there.'

The uniqueness of Cane Quest is that it is set in a natural environment. The youth are facing real-life challenges in the real-life setting. Stewart, an orientation and mobility specialist, described this unique challenge for the youth:

They certainly have to solve problems at Cane Quest because they're given routes to travel. . . . In a natural setting where changes take place and the things aren't always, you know, a static condition. So, they still have to solve problems in order to accomplish the task.



The youth participants described similar experiences in solving problems at Cane Quest. Many of the problem-solving experiences occurred on the competition route. Youth participant, Simon, described his experience “I accidentally veered onto a driveway. I remember that, but it was not a big deal cause, I already knew how to correct myself back onto the side.” Hannah also had to problem-solve at the competition:

When they give you directions, you’re supposed to follow those directions and kind of memorize the directions. And then when I came to a point where I didn't know what direction I just kind of like stood there and thought which way did the directions say I had to go and I just kept repeating the directions in my head so I wouldn't forget.

Although only four of the youth participants stated they set a goal for Cane Quest, the orientation and mobility specialists described other ways the youth have opportunities for goal setting at Cane Quest they may not have been aware of.

Orientation and mobility specialist, Grace, reflected on goal setting opportunities at Cane Quest:

I think there’s an overall goal to participate. There’s a goal to complete the course, and there’s goals in between that of ‘how am I going to complete this part of the route?’ . . . They have to figure out what they’re going to do to complete that part. So, they’re setting goals for themselves in that way.

Amber, an orientation and mobility specialist, shared similar thoughts on goal setting at Cane Quest:

Well at Cane Quest, they always have like an overall goal. So, you know, whether it’s like finishing a route or taking a bus and getting back to the starting place. I think every single activity is pretty much goal-oriented.

Some of the orientation and mobility specialists saw growth in their students because they wanted to set goals to do better each year. Joy, an orientation and mobility specialist, described how her student set a goal based on his skills at Cane Quest:

This one student's skills increased in comparison to last year's skills. He didn't win this past year, but it didn't seem to bother him. It's almost like all he wanted to do was beat the last scores that he got.

The youth who attended Cane Quest had opportunities to practice and experience many of the skills associated with self-regulation at Cane Quest. When students recognized they struggled in skill areas, they used self-regulation to set goals to increase their skills.

### **Theme Three: Cane Quest Opportunities in Psychological Empowerment**

The third area of self-determination is psychological empowerment. This study explored opportunities to practice and experience psychological empowerment at a long cane competition. To identify these opportunities, all participants were asked if the youth with visual impairments gained opportunities in choice and creative decision making. This was to explore the youth's confidence and locus of control through their abilities to make choices that were small or by making multiple choices. Decision making was explored by identifying if the participants were going through steps to determine their options. All the orientation and mobility specialists described the various ways youth make choices at Cane Quest, but several stated that there were not many choice opportunities provided because the competition is a set course. In interviews with the orientation and mobility specialists, positive self-esteem was described by three participants when asked about choice and creative decision making. Orientation and mobility specialists, Haley, Joy, Andrea, and Shirley, described that they felt Cane Quest increased confidence in the youth participants. This increase in confidence was also brought up in the

individual interviews with the youth participants. Kate, a youth participant, stated that Cane Quest made her feel confident five times during the interview. Seven of the orientation and mobility specialists said that there were no creative decision making opportunities at Cane Quest. The three orientation and mobility specialists described what they believed was decision making, but these examples sounded more like choices than thought through options towards making a decision. This finding is not surprising, as the youth were expected to react to real-life situations, in the present, during the competition. The orientation and mobility specialists stated that the choice to attend alone was an important choice. They also described various opportunities for choice at Cane Quest.

Joy explained how Cane Quest provides opportunities for psychological empowerment:

It places them in that real-world setting. It puts them in that metropolitan environment where they are able to see; it isn't some obstacle course in a closed environment. That is the real world. They see real-world consequences to their choices.

Orientation and mobility specialist, Amber, recalled the types of choices the youth made on the competition route:

They definitely have the decision to make like turns based on what the directions are given. So, like, right or left turn. They have the choice to get on the bus. So, even if they're getting on the wrong bus, they still have the choice to do that. . . . They do definitely have opportunities to make choices within the activities that they're doing.

Another way common theme associated with psychological empowerment was the youth's ability to make choices and think creatively at street crossings. When asked about his perception of choice and creative decision making at Cane Quest, Stewart, an orientation and mobility specialist, shared that "They certainly have decisions to make as far as for when is the correct

time to cross the street. That decision is the obvious and made by almost every student.” Youth at the competition are allowed to make the decision to cross or not to cross at the street crossing station. Grace, an orientation and mobility specialist, stated that even choosing not to cross was still an important decision. She shares, “They’ve got to figure out when it’s safe or if they need help. You know, not every kid can figure it out, so they have to know when they need to ask for help. Those are all choice making activities.”

For the youth participants, three believed they practice choice making, and three said they did not. Simon reflected on how he needed to use choice making skills during Cane Quest:

I remember this one checkpoint where it was like a cardinal direction thing where they had to like; they had to make you turn or point to different cardinal directions. . . . You can either, you know, you can start with any cardinal direction you want, north, south, or east, or west. And that was just a choice.

Youth participant, Kate, also described choice making at Cane Quest:

They do give you some choices, like if you want to be guided across the street or not. . . .

When to go and when to stop, when to listen, when to kind of look both ways before you cross the street that comes in to play as well. And also, how you do what they ask of you.

The orientation and mobility specialists and the youth participants all shared many examples of how youth with visual impairments practice and experience opportunities for psychological empowerment at Cane Quest. Although these examples were limited to the perceptions of choice making and creative decision making by the participant, this gives a broad overview of the ways youth with visual impairments can gain opportunities to practice and experience skills in this area.

#### **Theme Four: Cane Quest Opportunities in Self-realization**

The final area explored of Wehmeyer's Functional Theory of Self-determination (1999) is self-realization. To explore self-realization, all the participants were asked questions about what opportunities in facing new challenges and understanding their abilities youth encountered at Cane Quest. These opportunities would allow the youth participants to gain knowledge in the understanding of their abilities. The orientation and mobility specialists described youth in the competition as acting on their skills capacity by attempting or choosing not to attempt a challenge.

Joy, an orientation and mobility specialist, reflected on a participant who faced a new challenge during Cane Quest they had never experienced before:

This one student stated, 'Oh, I've never crossed a street before. I'm not in this area yet of mobility, can I just skip?' I then stated, 'You have that option to just skip it, and I can walk you through it, or you can see what happens, why not?' After all, we supervise all students and make certain they are protected. With that being said, the student rose up to the challenge and did well.

Cane Quest provides the experiences for youth with visual impairments to gain an understanding of their own abilities in the real-world environment. This experience is described by orientation and mobility specialist, Shirley:

I think they're a little surprised sometimes what they got marked down on. And it's not something that hasn't been discussed during the lesson, but they're kind of surprised. So, I'm not sure they have a really good, a realistic view of their skills because, you know, it's somewhat constrained because of that protective part [in their daily life].

During the route, the youth are faced with many new challenges that require all their orientation and mobility skills to complete. Orientation and mobility specialist, Stewart, shared this challenge:

It gives them a chance, you know, gives them a chance to kind of test the limits of their abilities. . . . They have to think about their skills and put everything they know into effect in order to follow the route, in order to cross streets, in order to do the task that's assigned to them.

The orientation and mobility specialists shared that the youth who were not able to complete a task were aware of the skills they needed. The youth who tried and were able to accomplish the task were able to confirm their own abilities. Amber, an orientation and mobility specialist, described this opportunity for self-realization:

I think that if the student has a good grasp of what they're supposed to be doing and they don't finish the task, every time I have noticed, that the child definitely knows that they're not able to do what they were asked to do. . . . But on the other hand, the kids that do excel in those areas definitely also get that experience of knowing that they can accomplish that specific task . . . there's an opportunity to have self-awareness there.

All the youth participants shared how they were able to face new challenges and practice their skills at Cane Quest. Half of the youth participants did not feel nervous but instead were excited and confident. Simon, a youth participant, was not nervous about facing a new challenge and stated that the challenge he had at Cane Quest was analyzing an intersection he was not familiar with. Youth participant, Kimberly, was also not scared of facing challenges at Cane Quest "I used to think about that a lot, especially in elementary, but now it's not a big deal for me, so I didn't feel especially uncomfortable traveling in a new route." Chloe also said she felt

comfortable at Cane Quest because there were people around “cause if something serious happens I knew they would step in and help so, like, I was just concentrating on my actual cane skills and like crossing.” Mark stated that facing a new challenge made him very nervous and that it was not easy. Hannah said that she was scared because it was her first time at Cane Quest, and the area was new to her. For Kate, the challenge of Cane Quest was daunting, “I think the scariest part of Cane Quest is not knowing where you’re going, kind of like not knowing what route you’re taking.”

All the participants described various ways the youth with visual impairments could practice and experience opportunities in self-realization at Cane Quest. This self-realization was explored through the perceptions of the participants describing experiences in which the youth were facing new challenges and understanding their own ability at Cane Quest. Some of the youth participants embraced and enjoyed the challenge, whereas others did not. The youth participants who participated many times were more comfortable with facing the new challenges at Cane Quest.

### **Theme Five: Support at Cane Quest**

Although there are three contributing factors to self-determination, capacity, opportunity, and support, Cane Quest was only found to have two. Support is the second contributor to self-determination explored for Cane Quest. Three types of support were mentioned by the participants that occurred at Cane Quest. The first type of support is the support of the orientation and mobility specialists to the youth participants during the event. The orientation and mobility specialists were not only there to guide each participant throughout the route, but to also offer support if needed. “There is supervision and guidance, but they set it up, I think, well enough to where they [youth] have to kind of find their way,” said orientation and mobility

specialist Haley. Orientation and mobility specialist, Joy described how Cane Quest directed the orientation and mobility specialists' volunteers at the event on how to support youth participants, "We are not allowed to hint anything toward the answer. We're not allowed to help them. We're there just in case anything should happen to supervise and protect them." This was also done to ensure that all the competitors receive the same type of support. There were volunteers at Cane Quest who were over-helping the participants. Some of the orientation and mobility specialists had to intervene some of the volunteers "I had to tell the person who was the monitor to be quiet because they're saying, 'okay, you're going to go straight ahead,' 'you're in a good position' and that kind of stuff," said Shirley. Amber also shared that there was some over-helping that occurred at Cane Quest, "The other route monitors kind of helped them out. So, I think that most of it, most of the time it's geared towards independence, but maybe sometimes they get a little bit of help from other people." The youth participants did not describe any experiences of over-helping at Cane Quest.

The second type of support that occurred at Cane Quest was youth to youth peer support. All the orientation and mobility specialists stated that the youth experienced peer support and interaction at Cane Quest. They all said that this was a positive aspect of Cane Quest. The youth also mentioned that they enjoyed being around their peers. The orientation and mobility specialists described why they believed peer support was a beneficial part of Cane Quest.

Orientation and mobility specialist, Haley, reflected on the youth peer support at Cane Quest:

They're around their peers, and so they can ask their peers for support too if they need to, or you know, like 'hey guys know where the bathroom is?'. . . And so they're mixing



together and supporting one another in that way, and I think that helps with their independence as well.

Other orientation and mobility specialists stated that Cane Quest was a way for youth to gain support and learn from one another. Andrea, an orientation and mobility specialist, shared this view:

When our students with visual impairments have a chance to be with each other, they share information. And I think that's really important. . . . It's an opportunity to gain role models for themselves of people who are of similar age. . . . Through gaining community and sharing information, they don't have to be so alone.

At Cane Quest, the youth are also building a community. Orientation and mobility specialist, Brian, described this community connection:

I think it's great for them to meet other kids or maybe reconnect with kids that they've seen at other events and connect with the, you know, the community of people who are visually impaired or blind or other kids in other school districts and sit and chat and have fun with them.

When the youth described their peer support at Cane Quest, they described their peers as being a motivation. Youth participant, Mark, reflected, "I think mobility and friends were the two things, key things that motivated me to be more independent and do it at Cane Quest." Kate, a youth participant, described how she enjoyed meeting new friends, and her old friends were the ones who continued to motivate her to go back each year. The Cane Quest environment allows for youth with visual impairments to learn more about their community and build community support among their peers.

The third Cane Quest support finding was the unexpected finding of peer support between the orientation and mobility specialists. Orientation and mobility specialists, Monica, Brian, and Stewart, described how they felt that there was support among orientation and mobility specialists who attended Cane Quest. Although this finding was not among the youth, the orientation and mobility specialist support may contribute to the service of youth with visual impairments they serve. Monica stated that there are benefits to communicating with other people who work in the visual impairment field so that “you can feel like a community.” Brian shared, “I think it’s interesting to see other O&M instructors and their perceptions and the, of the skills and, you know, how they break down each skill into its different parts.” Stewart also enjoys learning about the perspectives of other orientation and mobility specialists. He said, “It gives me a chance to evaluate my kids and my own teaching and my own situation. It’s very helpful to me.” The youth not only gain peer support, but the orientation and mobility specialists do as well. Orientation and mobility specialists are able to network, learn, and share ideas together as a community. This is often a struggle for orientation and mobility specialists who are typically itinerant service providers out in the field and geographically spread out. Cane Quest provides an opportunity for orientation and mobility instructors and youth with visual impairments to come together as a whole community.

## CHAPTER V

### DISCUSSION AND CONCLUSIONS

#### **Summary**

This study is the first to explore the Functional Theory of Self-determination in youth with visual impairments. The theory includes exploring the three main areas that contribute to self-determination: capacity, opportunity, and support. These three areas were explored in this study within the context of the participants' lives as well as within the context of Cane Quest. This exploration aimed to identify if there are gaps in self-determination that are occurring in the participants' daily lives that could be supplemented by attending an external program such as Cane Quest. This study determined that many youths with visual impairments lack in many areas that contribute to self-determination in their daily lives. Youth are also experiencing barriers in their daily lives that are impacting their ability to gain opportunities in self-determination. Each main area that contributes to self-determination was impacted by these barriers in the youth's lives. At Cane Quest, the youth gained new experiences and practice in all four areas of self-determination: autonomy, self-regulation, psychological empowerment, and self-realization. Many of these opportunities are unique to Cane Quest and are not occurring in every youth's daily life, such as crossing streets and riding a bus independently. The results of this study also identify a unique opportunity for youth to gain support through connecting with their peers with visual impairments and with the rest of the visually impaired community. This unique experience occurs at Cane Quest, where youth with visual impairments and orientation and mobility

specialists all come together to celebrate and support the independence of youth with visual impairments. Cane Quest was a beneficial experience for all the participants in the study, both the youth and orientation and mobility specialists. An exploration into self-determination of youth with visual impairments identified that these youth can gain experiences and practice to build self-determination skills at a long cane competition.

## **Discussion**

Through the exploration of self-determination in youth with visual impairments, the results identified how youth gain capacity in their daily lives. To be self-determined, Deci and Ryan (1985) posit that one must have “the capacity to choose and to have those choices be the determinants of one’s actions” (p.38). Wehmeyer (1996a), the creator of the Functional Theory of Self-determination, postulated that capacity is needed to perform behaviors to influence desired outcomes, thus if a person is not able to perform behaviors, they will not get their desired outcome. Youth with visual impairments receive training by orientation and mobility specialists to learn the skills needed to travel independently in their environment. Capacity in orientation and mobility increases success in other areas of the Expanded Core Curriculum, such as self-determination, through the practice of making choices when using orientation and mobility skills (Fazzi, 2014). Orientation and mobility specialists also described that they felt that their role is to help their students become independent individuals. The skills the orientation and mobility specialists teach are aimed to “build-up towards independence and self-determination” as stated by Grace, an orientation and mobility specialist. They identified various ways youth with visual impairments gain capacity in the skills needed to be independent in their daily lives. Youth with visual impairments gain capacity in self-determination through orientation and mobility lessons as well as through other aides and teachers. One of the youth participants, Simon, describes how

his aide at school teaches him how to navigate to his classes at the beginning of every school year. Orientation and mobility specialists experience barriers in gaining capacity for youth with visual impairments. All the orientation and mobility specialists shared how they faced obstacles with school liability concerns. Orientation and mobility specialist, Alison, described how schools restrict what she is able to teach her students “We couldn’t even take the kids off campus. Everything had to be just on campus, and that’s it.” They also stated they felt restricted in providing services due to time restraints or scheduling difficulties. “Sometimes the lessons are not long enough to do the full route or the full entire scope of getting from one place to the next,” said orientation and mobility specialist Amber. Griffin-Shirley and Pogrund (2018) also identified these same barriers occurring with orientation and mobility specialists working in the school districts. They identified that each school district had its own set of policies for taking youth with visual impairments off campus. Orientation and mobility specialists also struggled to find time to work with their students (Griffin-Shirley & Pogrund, 2018). By exploring the experiences of youth with visual impairments in their daily life, this study has identified various ways youth are gaining capacity. This study also identifies that these youth are facing many barriers to knowledge attainment. These findings shine a light on the experience and perceptions both the orientation and mobility specialists and the youth have on capacity associated with independence.

Orientation and mobility specialists believe youth with visual impairments need and would benefit from additional opportunities in self-determination. Opportunities to practice self-determination and receiving feedback is vital for youth with visual impairments to gain an understanding of the impact of their effort (Wolffe & Rosenblum, 2014). When asked about opportunities in each area of self-determination, the orientation and mobility specialists shared

that they feel youth with visual impairments severely lacked opportunities in each area. Orientation and mobility specialist, Brian, describes how youth are lacking opportunities “You know, here we’re going to practice this again and again and again. But if they don’t have opportunities to actually do these things independently, then it can, you know, it’s not retained, it’s not reinforced, and they don’t seem to see the purpose of it all.” Each orientation and mobility specialist identified at least one way a student they taught had an opportunity to practice an area of self-determination. Many struggled to think of an example for each area of self-determination or would state there were no opportunities for that area. Autonomy and self-regulation were the highest areas to be included in their students’ IEPs, whereas psychological empowerment and self-realization were least likely or not included. The orientation and mobility specialists described many ways autonomy (acting independently) and self-regulation (problem-solving or goal setting) naturally occurred in orientation and mobility lessons, whereas few were able to provide examples for psychological empowerment (choice and creative decision making) and self-realization (facing new challenges and understanding their abilities) in the youths’ daily lives. This is in contrast with the youths’ perceptions, they were able to share many examples in which they practiced psychological empowerment and self-realization in their daily lives. Autonomy and self-regulation may have felt limited to the youth participants because of the barriers described by the orientation and mobility specialists, such as allowing youth to make choices and decisions in their daily life.

Support is the third contributing factor to self-determination in Wehmeyer’s (1999) Functional Theory of Self-determination. In the exploration of support within the youth’s daily life, the following were the types of support that were mentioned: aide/assistant, buddy system, other staff, teachers, and parents. Both the orientation and mobility specialists and the youth

described various levels of support in school. Some of the participants described situations where the youth had full support in school, whereas others had little or no support. One of the youth participants, Simon, described how his aide stays with him the entire day, whereas Hannah shared that she does not have an aide or support in school. The orientation and mobility specialists and youth both described other types of support they received in school and at home. Some of these support systems were beneficial to the youth with visual impairments. Both the orientation and mobility specialists and youth participants described beneficial support from the youth's parents. Some parents would encourage their children to practice or have their children work alongside them in the home. "I've had a student who, for example, helped redo the floor with his dad" shared Andrea, an orientation and mobility specialist. Another source of beneficial support was found in school. Beneficial support in school can create more opportunities, such as difficult classes where the student with a visual impairment would need extra assistance to participate with the class. Grace, an orientation and mobility specialist, described how her student was able to take a jewelry-making class because he had an aide in the classroom. Although support can be beneficial, too much support can lead to learned helplessness. Too much support was a common theme in the daily lives of youth with visual impairments. Some of the orientation and mobility specialists stated they had students who already suffered from learned helplessness from being over-supported in school. The orientation and mobility specialists described that when youth have too much support, they are not able to gain opportunities in self-determination. Many of the orientation and mobility specialists described instances where people were over-helping their students. Some even described situations where people knew they were not supposed to help but did it anyway. Brain, an orientation and mobility specialist, shared "they see me coming, and they let go of the student and put them over

to the wall so they can trail.” Their student’s ability to be independent is taken away when someone does everything for them.

External programs offer youth with visual impairments a way to experience new things and practice their specialized skills. These unique opportunities are especially true for programs, like Cane Quest, that is designed for youth with visual impairments to gain exposure and practice their orientation and mobility skills. The participants in the study enjoyed the Cane Quest competition. The orientation and mobility specialists shared that the event was stress-free and well organized. Although the youth felt nervous about competing, they all shared similar excitement and joy when talking about their experiences at Cane Quest. The benefit of Cane Quest being an enjoyable activity for both the orientation and mobility specialists and the youth is that they are more likely to attend each year.

Since there are no structured lessons or knowledge attainment occurring at Cane Quest, it is determined that capacity does not occur at Cane Quest. Opportunity and support were the remaining two areas of self-determination that were present at Cane Quest. All the participants were asked questions for each of the four areas of self-determination opportunities: autonomy, self-regulation, psychological empowerment, and self-realization. The participants in this study described opportunities for each of these four areas occurring at Cane Quest. At Cane Quest, the youth experienced the opportunity to act autonomously. Since the youth participants completed the route on their own, they were acting autonomously throughout the route. One of the youth participants, Mark, stated that Cane Quest was an opportunity to practice his orientation and mobility skills and work on his independence. The participants also had the opportunity to use self-regulation during Cane Quest. They faced many challenges where they had problems to solve, planning out how they were going to perform each task, and follow through. Stewart, an



orientation and mobility specialist, describes how the unique environment of Cane Quest increases opportunities for youth with visual impairments to practice self-regulation skills, “In a natural setting where changes take place and the things aren’t always, you know, a static condition. So, they still have to solve problems in order to accomplish the task.” During Cane Quest, they also had the opportunity to experience psychological empowerment. The youth participants shared how they felt confident in their abilities to perform and were in control throughout the route. The youth had to face many decisions during their route at Cane Quest “they’ve got to figure out when it’s safe or if they need help” stated orientation and mobility specialist Grace. They also had the opportunity to experience self-realization at Cane Quest. The complexity of the route created many new challenges for youth participants. These new challenges pushed the youth to focus on their abilities. “There's an opportunity to have self-awareness there,” said Amber, an orientation and mobility special. When challenges appeared to be too much, youth who understood their abilities could choose to skip a challenge or ask for assistance.

Although the youth participants described feeling alone on the route, they were supervised the entire time by orientation and mobility specialists along the route as well as by route monitors. This allowed the youth participants to gain opportunities in self-determination while being monitored for safety. The orientation and mobility specialists shared that there was a positive support system at Cane Quest because they had the knowledge and experience to know when to let a youth try each challenge, but also could identify when the youth were not safe and could step in appropriately. Just like in the youth’s daily life, there was also some over-helping that occurred at Cane Quest. Two orientation and mobility specialists described situations where route monitors were over-helping and verbally or physically guiding the competition

participants. Based on the perceptions and experiences of the participants, Cane Quest has attempted to create an environment for youth to be as independent as possible but due to safety concerns will most likely always require volunteer support to monitor for safety.

### **Conclusions**

This study identifies the need for youth with visual impairments to gain more capacity, opportunities, and support to increase skills that build self-determination. Orientation and mobility specialists described the need for youth with visual impairments to be more independent. They identified their role as orientation and mobility specialists was to help youth with visual impairments to become as independent as possible. Orientation and mobility specialists taught their students daily living skills, traveling in their community, getting around their school campuses on their own, and much more. They described how it is through these lessons, the youth gained capacity in areas of self-determination such as reducing the need for assistance (autonomy), problem-solving (self-regulation), finding their voices (psychological empowerment), or taking those skills to obtain a job or go to college (self-realization). Hatlen (1996) stated that youth with visual impairment are not able to learn experiences and concepts incidentally like their sighted peers but require systematically and sequentially taught instruction. To achieve this systematic and sequential instruction, youth with visual impairments are taught skills directly related to self-determination in a one-on-one setting with their orientation and mobility instructor. Youth with visual impairments benefit from this one-on-one setting to learn skills they may lack in other areas of their daily life. These youth are also facing barriers to capacity in their daily lives. The most significant barriers to gaining capacity the youth and orientation and mobility specialists described occurred in the school districts and at home. For youth with visual impairments to gain capacity in self-determination, they must find a way to

overcome or navigate these barriers. Youth with visual impairments need to learn and develop skills associated with self-determination to gain independence in their daily lives. These skills are vital to be able to get a job and function independently in society, but the youth will soon leave the school system and may not have the necessary capacity in the skills needed to accomplish this.

Opportunities are essential for the practice and development of self-determination skills. Although youth with visual impairments are gaining some experiences of self-determination in their everyday lives, orientation and mobility specialists shared that this area was still lacking. The three main barriers that limit the youth's ability to have opportunities in self-determination were school policies and liability, people over-helping, and parents. Youth with visual impairments shared how they felt limited at school and at home. Some orientation and mobility specialists were not allowed to take their students off school campus. Because these youth were not able to leave the school campus, they were limited to only learning skills to be independent at school. For youth with visual impairments to talk about and understand concepts, they need the opportunity for hands-on experiences (Fazzi & Petersmeyer, 2001). Bjorg (2016) found that youth with visual impairments need a variety of experiences and opportunities for new skill development. For these youth to gain opportunities to become independent and self-determined individuals, they need the opportunity to learn and experience the necessary skills in real-life settings. Cane Quest offered a unique opportunity for youth with visual impairments to experience and test their orientation and mobility skills in a real-life setting. Youth with visual impairments are restricted to the environment they live in and attend school, but at Cane Quest, these youth gained exposure to a college campus, bus travel, intersections, neighborhoods, and light business areas. Some of the participants stated that not all youth with visual impairments

have access to these types of experiences based on the location they receive orientation and mobility services. Cane Quest gave the youth the opportunities to develop and build self-determination skills that they may not get in their daily life. Cane Quest and other programs may be the experiences these youth need to build this area of the Expanded Core Curriculum.

The final area of self-determination, support, was explored in this study. This study found support was both a positive and negative experience. Both the orientation and mobility specialists and the youth participants described situations in which support was beneficial as well as when support was too much. Some of orientation and mobility specialists stated they saw the impact of over-helping in some of their students. When youth were helped too much, they stopped trying to do things on their own and in some cases, would wait for someone to help them without seeking assistance. To participate in an event like Cane Quest, youth must act on their own accord. Some of the youth said that they are uncomfortable because they felt that they rely on a lot of support in their daily lives. When youth with visual impairments were at Cane Quest, they felt the freedom to do things independently but were also safe with professionals around them to ensure they were not severely injured. While youth made statements that the support at Cane Quest “will not help you at all,” they also explained how they felt safe to face new challenges knowing someone was overseeing their progress. This type of support was beneficial to the youth with visual impairments.

### **Suggestions for Future Research**

In this study, the orientation and mobility specialists described how barriers in the youths’ daily lives impact their ability to gain capacity in the necessary skills needed for independence. When exploring Cane Quest, there was no data to support that knowledge attainment in self-determination had occurred. Although this study did not find capacity at Cane

Quest, this is not definitive. Further research can be done at Cane Quest with a detailed exploration into capacity taking place at Cane Quest. The participants described external programs that provide learning opportunities for youth with visual impairments to gain capacity in skills associated with self-determination. Further research is needed to focus on areas so that youth can increase capacity, whether this is in the school, at home, or in other programs.

In this study, the researcher conducted an overview of youths' opportunities in specific areas of self-determination in the youth's daily life and at Cane Quest. There are many other areas to explore related to self-determination, such as locus of control and self-efficacy. This research was also conducted using only orientation and mobility specialists and youth participants. Future research is recommended for the exploration of youths' opportunities in self-determination at home by seeking input from the youth's family members. Teachers of students with visual impairments also work one-on-one with these youth, so their perspective may provide additional information on opportunities in self-determination.

Future research would also be beneficial to explore support in the lives of youth with visual impairments and the impact on these youth. This study aimed only to explore support and not learned helplessness. Learned helplessness was mentioned many times by the participants, and some of the statements by the youth suggested this is a common problem. The type of support youth with visual impairments experience in their daily lives may lead to an increase or even a decrease in self-determination. Thus, this would be an essential area to explore further about self-determination.

### **Implications**

As previously stated, research on self-determination in youth with visual impairments is limited. This qualitative study explored three main areas that contribute to the development of

self-determination; capacity, opportunity, and support. Some of the findings in this study were supported by previous literature, while others bring to light new information to address some of the gaps. One of the contributors to self-determination, capacity, was found to have many barriers in the youths' daily lives. By identifying these barriers, measures can be taken to address them by service providers, parents, and schools. One of the most significant barriers was the restrictions placed on orientation and mobility specialists by schools and parents. To address these concerns, orientation and mobility specialists and other service providers can work together through professional organizations or in small groups to identify ways to increase information about services, answer concerns, and support schools and parents in increasing capacity.

Support is the second contributor to self-determination based on Wehmeyer's Functional Theory of Self-determination (1999). Too much support was found to be a significant problem in the daily lives of youth with visual impairments. Over-helping was identified as occurring at school, home, and even at Cane Quest. The over-helping was identified as causing learned helplessness in youth with visual impairments. To address this issue, service providers, such as orientation and mobility specialists, should work closely with schools and families to help identify the appropriate amount of support they recommend for their students. As students develop more skills over time, orientation and mobility specialists should update and make recommendations when needed to schools and families. By keeping everyone informed and in agreement may increase the appropriate amount of support in lessons, at school, and at home.

The third area in Wehmeyer's Functional Theory of Self-determination (1999) that contributes to self-determination is opportunities. This study found that youth are receiving some opportunities in self-determination skills, but the orientation and mobility specialists do not feel it is enough. One significant finding was that external programs, like Cane Quest, increase

opportunities for youth with visual impairments to practice and develop skills to become more self-determined. Although not all youth are guaranteed to gain an increase in self-determination, this study identified through participant experiences and perceptions that the opportunity is there. Professionals working with youth with visual impairments can use this information to recommend beneficial programs to their students that allow youth to practice skills in self-determination.

The findings also suggest that youth are receiving too much support in their daily life. Parents and professionals can use this information to identify and learn about support occurring at their schools. Youth with visual impairments, within safe limits, should be allowed to practice and experience independence within their school, with as little assistance as possible. It is also crucial for the orientation and mobility specialists to work with parents to reduce the fears of parents in letting their youth gain opportunities in independence. Recommending programs like Cane Quest may help reduce parental fears and allow the youth to practice and develop self-determination. When these areas improve, youth with visual impairments may have more opportunities in their daily life to practice self-determination skills.

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APPENDIX A  
YOUTH INTERVIEW PROTOCOL

## Youth Interview Protocol

Thank you for meeting with me by telephone today to discuss the research project regarding experiences and perceptions of self-determination among youth who are blind or visually impaired. The information we discuss today will be used to develop an understanding of ways self-determination opportunities occur at a long cane competition like Cane Quest.

Your participation in this interview will be kept confidential, your name and any other identifying information will not be used. You may withdraw at any time or choose not to participate without penalty. Our call should last less than one hour depending on how much detail you provide. If you complete the entire interview, I will send you a \$20 gift card. With your permission I would like to record our conversation.

Ok I have begun recording.

As you share your thoughts and experiences about opportunities in self-determination, I would like you to include anything from before, during, and in the time since Cane Quest. Information such as preparation, all your experience during, and your experience after attending Cane Quest are all very useful in understanding opportunities for self-determination in programs like Cane Quest.

Are you ready to begin?

*First, I am going to ask you some basic information about yourself.*

- How old are you?
- Do you have a disability other than vision loss? \_\_\_ No or \_\_\_ Yes

*Tell me about your experience with Cane Quest.*

- Have you attended Cane Quest before?
- What motivated you to attend Cane Quest?
- Tell me what you thought your level of independence before you arrived at Cane Quest?
- Overall, how did you feel about competing at Cane Quest?

*Next, I am going to ask you some questions about your experiences of independence.*

- What are your experiences with independence at home and at school?
- Does anyone provide assistance to you at school? Such as an aide or a helper?
- What was your experience of independence at Cane Quest?
- What are your experiences of independence after attending Cane Quest?

*Ok, these next questions are about solving problems and setting goals.*

- What types of problems did you experience at Cane Quest?
- How did you work to solve these problems?
- How did you prepare for Cane Quest?
- How often do you have O&M lessons?
- Did you create a goal for Cane Quest?
- How do you feel about your goal after Cane Quest?

*Now, I would like to hear about your experiences with choice and creative decision making.*

- What are your experiences with having choices at home and school?
- What were your experience with having choices at Cane Quest?
- How did you make decisions during Cane Quest?
- How do you feel about the decisions you made?
- How do you feel about figuring out decisions when making choices now?

*Tell me about your experience with facing new challenges.*

- What are your experiences with facing new challenges at home and school?
- How did you feel about your long cane skills before Cane Quest?
- How did you feel about your long cane skills during Cane Quest?
- How did you feel about your long cane skills after Cane Quest?
- How did you feel about the challenge of doing a route you had never done before?

*These are the final questions about Cane Quest.*

- What did you learn about yourself from Cane Quest?
- How did you feel at the end of the day at Cane Quest?
- How do you feel about attending events like Cane Quest?
- Is there anything else you want me to know?

Would it be ok to follow up with you if I have any other questions?

Also, do you want to review this transcript prior before I use the information in my data collection?

Since you completed the entire interview, I will be sending you a \$20 gift card to Apple iTunes, Amazon, Target, Walmart, or Starbucks?

I would like to invite you to participate in the focus group session. For your participation, you will receive an additional \$20 gift card. The focus group will take place on \_\_\_\_\_ at \_\_\_\_\_.

Thank you so much for participating in the study. If you have any questions, feel free to contact me at 714-290-8336.

APPENDIX B

ORIENTATION AND MOBILITY INTERVIEW PROTOCOL

## O&M Interview Protocol

Thank you for meeting with me by telephone today to discuss the research project regarding experiences and perceptions of self-determination among youth who are blind or visually impaired. The information we discuss today will be used to develop an understanding of ways self-determination opportunities occur at a long cane competition like Cane Quest.

Your participation in this interview will be kept confidential, your name and any other identifying information will not be used. You may withdraw at any time or choose not to participate without penalty. Our call should last less than one hour depending on how much detail you provide. With your permission I would like to record our conversation.

Ok I have begun recording.

As you share your thoughts and experiences about opportunities for self-determination in youth with visual impairment, I would like you to include anything from your observations at Cane Quest as well as observations you've made with your students. This information will be very useful in understanding opportunities for independence in youth with visual impairments.

Are you ready to begin?

*First, I am going to ask you some basic information*

- How many years have you been an O&M instructor?
- What is your caseload size?
- Describe the size of the community in which you work:

*Tell me about your experience with Cane Quest.*

- Have you volunteered as an O&M at Cane Quest before?
- Overall, what was your perception of Cane Quest?
- Were there any unique observations you made of the youth participants during Cane Quest?

*Next, I am going to ask you some questions about independent opportunities for youth with visual impairments.*

- How do you feel about the need for youth with visual impairments to gain opportunities in independence?
- What experiences in independence do you feel are lacking for youth with visual impairments?
- How do youth with visual impairments gain experiences of independence at Cane Quest?
- Do any of your students receive assistance at school? Such as an aide or a helper?
- Do any of your students have goals for independence in their IEP? What are they?

*Ok, these next questions are about solving problems and setting goals opportunities for youth with visual impairments.*

- How do you feel about the need for youth with visual impairments to gain opportunities in problem-solving and goal setting?



- What experiences in problem-solving are lacking for youth with visual impairments?
- How do youth with visual impairments gain experiences in problem-solving at Cane Quest?
- What experiences in goal setting are lacking for youth with visual impairments?
- How do youth with visual impairments gain experiences in goal setting opportunities at Cane Quest?
- Do any of your students have goals for problem-solving or goal setting in their IEP?

*Now, I would like to hear about your experiences with choice and creative decision-making.*

- How do you feel about the need for youth with visual impairments to gain opportunities in choice and decision making?
- What experiences in choice making are lacking for youth with visual impairments?
- How do youth with visual impairments gain experiences in choice making at Cane Quest?
- What experiences in creative decision making are lacking for youth with visual impairments?
- How do youth with visual impairments gain experiences in creative decision-making opportunities at Cane Quest?
- Do any of your students have goals for choice-making or creative decision-making in their IEP?

*Tell me about your experience with youth's self-realization through facing new challenges.*

- How do you feel about the need for youth with visual impairments to gain opportunities in understanding their own abilities and facing new challenges?
- What experiences in understanding their own abilities and facing new challenges do you feel are lacking for youth with visual impairments?
- How do youth with visual impairments gain experiences in understanding their own abilities and facing new challenges at Cane Quest?
- Do any of your students have goals in understanding their own abilities and facing new challenges in their IEP?

#### Final Questions

- Do you feel that the youth gained something from Cane Quest?
- How do you feel about youth with visual impairments attending events like Cane Quest?
- Would you recommend Cane Quest for youth with visual impairments and why?
- What are your thoughts on youth with visual impairments gaining practice in the Expanded Core Curriculum outside of school?
- Is there anything else you want me to know?

Would it be ok to follow up with you if I have any other questions?

Also, do you want to review this transcript prior before I use the information in my data collection?

I would like to invite you to participate in the focus group session. For your participation, you will receive a \$20 gift card. The focus group will take place on \_\_\_\_\_ at \_\_\_\_\_.

Thank you so much for participating in the study. If you have any questions, feel free to contact me at 714-290-8336.

APPENDIX C  
YOUTH FOCUS GROUP PROTOCOL

## Youth Focus Group Protocol

Good afternoon everyone! Thank you for joining my discussion about self-determination for youth with visual impairments. You were chosen for this group because you are part of the group who attended the Cane Quest competition in Los Angeles. This session will be recorded to ensure accuracy when transcribing the information collected. All identifying information will be kept confidential and will not be shared.

Let's stop for a moment here and quickly introduce ourselves. I will begin. (Go around room and introduce)

Thank you. Now, today we will be talking about your experiences at Cane Quest. We will talk about what you think are important about learning to be independent. I am also interested in your thoughts on Cane Quest as an opportunity to gain experiences in independence. There are no wrong answers. We may hear different points of view. Please feel free to share your point of view, even if it is very different from what others have said.

Before I begin, I am going to go over some good guidelines to keep us on track. Please speak up so everyone can hear you. Also, I am audio taping this session and want to be sure I do not miss your comments. I also ask that only one person speak at a time and that everyone try to participate. Sometimes there are people that talk a lot and some people that do not say much. It is important for me to hear from each of you. So, if one of you is sharing a lot, I may ask you to let others talk. And if you don't say much, I may ask your opinion.

We will be on a first name basis during this session, but there will not be any names attached to my report. I've placed name cards on the table in front of each of you to help us remember each other's names.

My role here is to ask questions and to listen. I will not participate in the discussion but want you to be free to talk with each other. I will ask a few questions to get us started and may jump in to get us back on track if we wander from the topic.

So, to begin,

Self-determination is known as a combination of skills, knowledge, and beliefs. These help a person to be independent, solve problems, set goals, make choices, and try new challenges. I want to hear what you all think about this topic.

1. Please describe what you think is most important about self-determination.

As discussion lags, summarize content and refocus discussion.

2. What are ways you feel that you can practice self-determination? Can these be done at school, home, or programs?

As discussion lags, summarize and refocus discussion.

3. Do you all practice independence at Cane Quest? And how?

As discussion lags, summarize and refocus discussion.

4. How do you see the role of the orientation and mobility as a way to increase independence?

Summarize comments and prepare to close.

5. We are about to conclude our discussion, are there any other comments that anyone would like to add about self-determination?

Summarize comments.

Thank you all for your participation in this process. I believe you have provided information that will be helpful to me in investigating self-determination opportunities for youth with visual impairments. Since you all participated in the focus group you will all be getting a \$20 gift card. I will come around and write down which gift card you have chosen. If you need to, you can also email me which gift card you would like.

Thank you again.

APPENDIX D  
ORIENTATION AND MOBILITY FOCUS GROUP  
PROTOCOL

## O&M Focus Group Protocol

Good afternoon everyone and welcome to the focus group session. Thank you for joining my discussion about self-determination for youth with visual impairments. You were selected because you are an O&M specialist and participated as a volunteer in the Cane Quest competition for youth with visual impairments. This session will be recorded to ensure accuracy when transcribing the information collected. All identifying information will be kept confidential and will not be shared.

Let's stop for a moment here and quickly introduce ourselves. I will begin. (Go around room and introduce)

Thank you. Now, today we will be discussing your ideas regarding opportunities in self-determination for youth with visual impairments. We will discuss what you think are important aspects for youth with visual impairments to learn and develop self-determination skills. I am also interested in your thoughts on Cane Quest as an opportunity for youth with visual impairments to gain experiences in self-determination. I very much want to know your perspective on this topic. There are no wrong answers, but we may hear different points of view. Please feel free to share your point of view, even if it is very different from what others have said.

Before I begin, let me suggest some things that will make our discussion more productive. Please speak up so everyone can hear you. Also, I am audio taping this session and want to be sure I do not miss your comments. I also ask that only one person speak at a time and that everyone take an opportunity to participate. There is a tendency in these discussions for some people to talk a lot and some people not to say much but it is important for me to hear from each of you. So, if one of you is sharing a lot, I may ask you to let others talk. And if you don't say much, I may ask your opinion.

We will be on a first name basis during this session, but there will not be any names attached to my report. I've placed name cards on the table in front of each of you to help us remember each other's names.

My role here is to ask questions and to listen. I will not participate in the discussion but want you to be free to talk with each other. I will ask a few questions to get us started and may jump in to get us back on track if we wander from the topic.

So, to begin,

Self-determination is known as a combination of skills, knowledge, and beliefs that enable a person to be engaged in autonomous (ability to be independent), self-regulation (problem-solving, goal setting), psychological empowerment (choice-making, making decisions), and self-realization behaviors (attempting new challenges). Although increased self-determination is known to have a significant benefit for people with visual impairments, researchers have found that self-determination is one the least taught areas from the Expanded Core Curriculum.

1. Please describe what you think is most important about self-determination in youth with visual impairments.

As discussion lags, summarize content and refocus discussion.

2. What are ways you feel that youth with visual impairments can increase self-determination? Can these be implemented in school, home, or programs?

As discussion lags, summarize and refocus discussion.

3. What do you think about Cane Quest as an opportunity for self-determination development?

As discussion lags, summarize and refocus discussion.

4. How do you see the role of the orientation and mobility specialist in the process of increasing self-determination for youth with visual impairments?

Summarize comments and prepare to close.

5. We are about to conclude our discussion, are there any other comments that anyone would like to add about self-determination?

Summarize comments.

Thank you all for your participation in this process. I believe you have provided information that will be helpful to me in investigating self-determination opportunities for youth with visual impairments. Since you all participated in the focus group you will all be getting a \$20 gift card. Please write down on the 3 by 5 card provided your name and which gift card you would like and place it in the box on your way out. If you need to, you can also email me which gift card you would like.

Thank you again.



APPENDIX E

SKILLS CHECKLIST FOR CANE QUEST

**CONTESTANT'S NAME:** \_\_\_\_\_

O&M Specialist's Name \_\_\_\_\_

Specialist's Address \_\_\_\_\_

Specialist's Telephone \_\_\_\_\_ Specialist's E-mail \_\_\_\_\_

Name of School \_\_\_\_\_

Name of School District \_\_\_\_\_

Student's Age \_\_\_\_\_ Student's Grade \_\_\_\_\_ Vision Classification: B1 \_\_\_\_\_ B2 \_\_\_\_\_

### SKILLS CHECKLIST FOR CANE QUEST

This checklist is to be completed by a certified Orientation & Mobility Specialist. Each of the following skills should be assessed on a scale of 1-4, with 1 representing poor and 4 representing excellent, and based on average expectations for a student at grade level. Students are not required to be proficient in all skills to participate. Contestants are encouraged to seek assistance at any time during the contest if they are not confident performing any task. All skills apply to all eligible students in grades 7-12 grade, except where specified for Trailblazers only.

**Please circle one:**

Protective Techniques	1	2	3	4
Dropped Objects	1	2	3	4
Sighted Guide Techniques	1	2	3	4
Cardinal Directions	1	2	3	4
Care of the Cane	1	2	3	4

### CANE TECHNIQUES

Two Touch Technique	1	2	3	4
Touch and Drag Technique	1	2	3	4
Shoreline/Guideline Technique	1	2	3	4
Three-point Touch Technique	1	2	3	4
Constant Contact Technique	1	2	3	4
Diagonal Technique	1	2	3	4

### RESIDENTIAL TRAVEL

Travel a variety of specified routes	1	2	3	4
Reversing routes	1	2	3	4
Travel around a rectangular block	1	2	3	4
Cross residential streets	1	2	3	4
Cross 4 way stops	1	2	3	4
Cross in a clockwise direction	1	2	3	4



**CONTESTANT'S NAME:** \_\_\_\_\_

Cross in a counter-clockwise direction	1	2	3	4
Systematically relocate sidewalk	1	2	3	4
Reposition self on sidewalk and continue walking in desired direction	1	2	3	4
Use self correction techniques	1	2	3	4
Use appropriate cane techniques for moving around obstacles	1	2	3	4
Execute a route using directional instructions	1	2	3	4
Follow audio directions	1	2	3	4
Use landmarks for orientation	1	2	3	4

**LIGHT BUSINESS and BUSINESS TRAVEL**

Identify street layouts	1	2	3	4
Traffic patterns	1	2	3	4
Types of intersections	1	2	3	4
Cross at accessible signals	1	2	3	4
Cross signal intersections parallel to a major street	1	2	3	4
Identify the available sensory cues	1	2	3	4
Use appropriate cane techniques for negotiating obstacles	1	2	3	4
Solicit assistance for the purpose of orientation or making transactions	1	2	3	4
Locate a specified business	1	2	3	4
Locate, approach stairs both going up and going down, descend and ascend safely with appropriate cane skills	1	2	3	4

**Trailblazers Only (grade 10-12)**

Bus Travel Skills	1	2	3	4
Cross major signal intersections with left turn signals	1	2	3	4

Student's Signature: \_\_\_\_\_

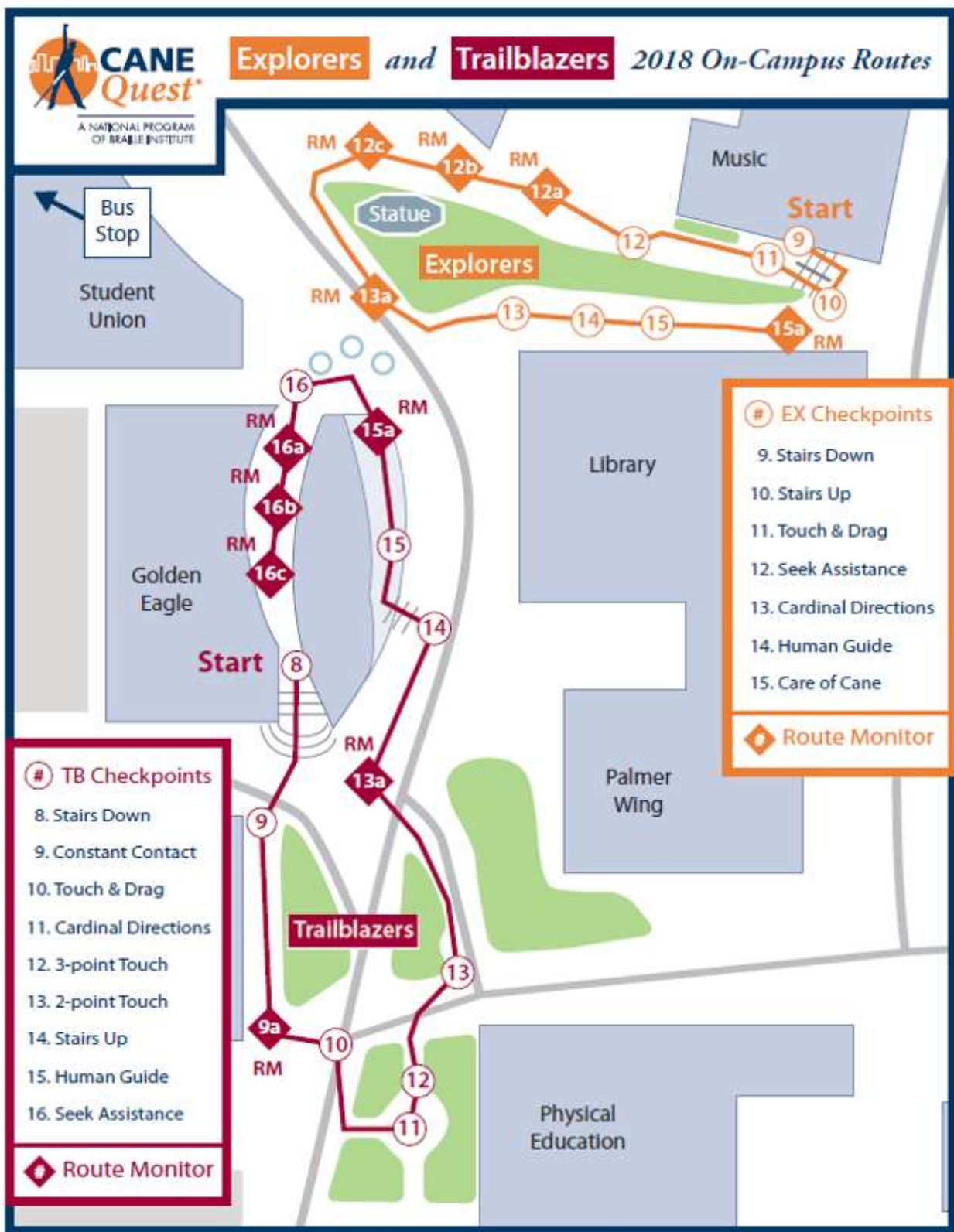
Orientation and Mobility Specialist's Name: \_\_\_\_\_

Orientation and Mobility Specialist's Signature: \_\_\_\_\_

Date: \_\_\_\_\_



APPENDIX F  
CANE QUEST ROUTE MAPS







## Explorers and Trailblazers 2018 Neighborhood Routes



## APPENDIX G

### SELF-DETERMINATION INTERCODER RELIABILITY RUBRIC

Table G1

*Self-determination Coding Rubric*

Main Themes Codes	Definition	Description for this study
In Life	Anything in their life, not Cane Quest	
capacity (green)	“An individual’s mental or physical ability” (Merriam Webster Definition).	The learning of O&M or Self-Determination skills, O&M skills, skill levels, and lessons. Includes barriers in gaining the ability to learn or develop O&M or Self-Determination skills (i.e. the school rules don’t allow teachers to teach something, or the skills are not included in the IEP)
lfeelings (pink)		Feelings stated by the participants in general (not cane quest specific)
lsupport (blue)	to provide assistance or serve as a foundation (Merriam Webster Definition)	Includes any person, peers, peer interaction, or entity that provides the student with support. Both positive and negative support. This support can even be deemed as “over-helping”.  Can be double coded by labeling lsupport- (self-determination domain; i.e. lsupport-autonomy)
Lautonomy (grey)	“The outcome of a process of individualization and encompasses, fundamentally, actions in which people act (a) according to their own preferences, interests, and/or abilities; and (b) independently, free from undue external influences or interference.” (Wehmeyer, 1999, p.57)	Any opportunities or acts of doing things on their own without support or with minimal support. This includes self-advocacy. Feelings or opinions associated with autonomy in life.



Table G1 (continued)

lself-regulation (grey)	“Self-regulation enables individuals to examine their environments and their repertoires of responses for coping with those environments to make decisions about how to act, to act, to evaluate the desirability of the outcomes of the action, and to revise their plans as necessary.” (Whitman, 1990 p.373)	Any opportunities or act in goal setting, problem-solving, planning, and self-monitoring. Feelings or opinions associated with self-regulation in life.
lpsychological empowerment (grey)	Psychological empowerment refers to the multiple dimensions of perceived control, including the cognitive (personal efficacy), personality-driven (locus of control), and motivational domains (Zimmerman, 1990).	Any opportunities or the act of making choices and decisions. This also includes feeling confident or empowered. Feelings or opinions associated with psychological empowerment in life.
lself-realization (grey)	Self-determined people are self-realizing in that they use a comprehensive and reasonably accurate, knowledge of themselves and their strengths and limitations to act in such a manner as to capitalize on this knowledge. (Wehmeyer, 1999)	Any opportunities or the act of understanding their abilities, realizing their abilities, and facing a new challenge to test their abilities. Feelings or opinions associated with self-realization in life.

Cane Quest	Anything that occurs at Cane Quest	
cqdescriptors (teal)		Anything that describes Cane Quest
cqfeelings (pink)		Feelings stated by the participants about Cane Quest overall (i.e. feeling anxious, excited. . .) Anything tied to feeling nervous about a self-determination skill (i.e. nervous about asking for help) so with that particular skill.

Table G1 (continued)

cqsupport (blue)	See above	Includes any person or entity that provides the youth with support at Cane Quest. This could be an adult, peers, and peer interactions. The support can be both positive and negative.  Can be double coded by labeling lsupport- (self-determination domain; i.e. lsupport-autonomy)
cqautonomy (yellow)	“The outcome of a process of individualization and encompasses, fundamentally, actions in which people act (a) according to their own preferences, interests, and/or abilities; and (b) independently, free from undue external influences or interference.” (Wehmeyer, 1999, p.57)	Any opportunities or acts of doing things on their own without support or with minimal support. This includes self-advocacy. Feelings or opinions associated with autonomy at Cane Quest.
cqself-regulation (yellow)	“Self-regulation enables individuals to examine their environments and their repertoires of responses for coping with those environments to make decisions about how to act, to act, to evaluate the desirability of the outcomes of the action, and to revise their plans as necessary.” (Whitman, 1990 p.373)	Any opportunities or act in goal setting, problem-solving, planning, and self-monitoring. Feelings or opinions associated with self-regulation at Cane Quest.
cqpsychological empowerment (yellow)	Psychological empowerment refers to the multiple dimensions of perceived control, including the cognitive (personal efficacy), personality-driven (locus of control), and motivational domains (Zimmerman, 1990).	Any opportunities or the act of making choices and decisions. This also includes feeling confident or empowered. Feelings or opinions associated with psychological empowerment at Cane Quest.

Table G1 (continued)

cqself-realization (yellow)	Self-determined people are self-realizing in that they use a comprehensive and reasonably accurate, knowledge of themselves and their strengths and limitations to act in such a manner as to capitalize on this knowledge. (Wehmeyer, 1999)	Any opportunities or the act of understanding their abilities, realizing their abilities, and facing a new challenge to test their abilities. Feelings or opinions associated with self-realization at Cane Quest.
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APPENDIX H

INSTITUTIONAL REVIEW BOARD NOTICE OF APPROVAL

**From:** nrs54@msstate.edu  
**Sent Date:** Wednesday, March 27, 2019 09:47:33 AM  
**To:** sdd2@msstate.edu, df76@msstate.edu, jlc1470@msstate.edu, kmc12@msstate.edu, kmm1210@msstate.edu, mec10@msstate.edu  
**Cc:**  
**Bcc:**  
**Subject:** Approval Notice for Study # IRB-18-364, A Long Cane Competition's Impact on Self-Determination of Children with Blindness and Low Vision

**Message:**

Protocol ID: IRB-18-364  
Principal Investigator: Sandy Devlin  
Protocol Title: A Long Cane Competition's Impact on Self-Determination of Children with Blindness and Low Vision  
Review Type: EXPEDITED  
Approval Date: March 27, 2019  
Expiration Date: March 26, 2024

The above referenced study has been approved. To access your approval documents, log into myProtocol and click on the protocol number to open the approved study. Your official approval letter can be found under the Event History section. For non-Exempt approved studies, all stamped documents (e.g., consent, recruitment) can be found in the Attachment section and are labeled accordingly.

If you have any questions that the HRPP can assist you in answering, please do not hesitate to contact us at [irb@research.msstate.edu](mailto:irb@research.msstate.edu) or 662.325.3994.